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California MEDICINE

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION

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Practical Aspects of the Low Sodium Diet

Prepared by a Committee of the San Francisco Heart Association*

EDEMA fluid is essentially an isotonic solution of salt and water. In order to maintain this normal concentration of sodium, any physiological disturbance resulting in a retention of sodium results in a corresponding retention of water. Conversely, whenever there is a retention of water, sodium is retained in order to preserve isotonicity. This relationship depends on normal renal function and fails when the kidney is unable to maintain the normal sodium concentration.

The fundamental objective in the use of a diet low in sodium is the reduction of interstitial and subcutaneous fluid. When an edematous state exists, the reduction of sodium intake sufficient to create a negative sodium balance results in diuresis with consequent decrease in accumulated sodium and water. Furthermore, when the bodily tendency to produce edema exists, the actual retention of sodium may be prevented or diminished by limiting the amount of sodium available to the body. The amount of sodium restriction required varies from case to case and from time to time in the individual case; it depends in part on the previous sodium intake of the patient and the severity of the disease process. In cardiac failure of mild degree, for instance, usually only moderate restriction of sodium is required. In nephrosis, however, rigid restriction of sodium intake to 300 mg. or less per day may be necessary, since many patients with nephrosis excrete practically no sodium in the urine. Any sodium given in the diet, therefore, will be retained with an equivalent amount of water, thus aggravating the edema.

In edema, it is the sodium ion and not the chloride ion which must be withheld from the patient. When the term "salt" is used, as in "low salt diet," it is important to remember that sodium is meant. Pfeiffer in 1911 demonstrated that retention of fluid in edematous states occurred with both sodium bicarbonate and sodium chloride, but did not occur with ammonium chloride or potassium chloride. In fact, slight diuresis occasionally occurred with the latter two substances.

DEGREES OF SODIUM RESTRICTION

The average daily diet contains about 10 gm. of sodium chloride (4 gm. of sodium). Special preferences for highly seasoned food, or the inclusion of large amounts of bread, may double this figure. Mild sodium restriction: 2 to 5 gm. NaCl (0.8 gm. to 2 gm. Na). Moderate sodium restriction: 1 to 2 gm. NaCl (0.4 gm. to 0.8 gm. Na). Rigid sodium restriction: 250 to 1,000 mg. NaCl (100 mg. to 400 mg. Na).

INDICATIONS FOR SODIUM RESTRICTION[3, 4, 5]

I. *Congestive Heart Failure*

Regardless of the mechanism which is ultimately found responsible for the congestive phenomena in cardiac failure, the initial disturbance is failure of

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Free use was made in this study of the "Sodium and Potassium Analyses of Foods and Water," which is available from Mead Johnson and Company. In addition, many determinations were made by the Salt-Free Diet Committee.

Permission to reprint the tables on sodium and potassium in foods and waters was given by Mead Johnson and Company, Evansville, Ind., and the *Journal of American Dietetic Association*, where they were first published, 25:304-314, April 1949.

the heart as a pump. All authorities agree that there is retention of salt and water, and that this retention is responsible for many of the symptoms of congestive heart failure. Restriction of sodium, therefore, is one of the prime therapeutic procedures to be carried out in both low output and high output cardiac failure. The restriction of sodium necessary to produce diuresis in the individual patient varies with the previous sodium intake and degree of failure. If the patient has minimal cardiac failure, a high salt intake may produce frank clinical cardiac failure. In such patients, restriction of the salt intake to normal values, or a moderate decrease to one to two grams a day, may satisfactorily produce diuresis. In some patients, however, a strict 350 mg. sodium diet is required in order to effect diuresis. At times, reduction of salt intake by as little as 1 gm. a day may obviate the need for mercurial diuretics to maintain an edema-free state. Maximum diuresis from sodium restriction usually occurs within one to two weeks.

Once congestive failure has been treated, and the patient has no symptoms or signs of failure, the intake of sodium may be moderately liberalized, although the patient should be observed for possible recurrence of failure. If no recurrence follows, the patient may then continue with the liberalized restriction of salt to two to three grams per day. If the failure recurs the patient may have to be maintained on the strict 350 mg. sodium diet. In general, restriction of sodium may be as rigid or as liberal as required for the individual patient.

In clinical practice a balance between the degree of sodium restriction and the frequency of mercurial injections may be necessary to conform with the attitude or life situation of the individual and the willingness of the patient to cooperate. Mild cases may respond to either sodium restriction or the administration of mercurial diuretics. Occasionally, merely changing a diet high in salt to one containing average amounts may control the edema. Frequently, however, sodium restriction must be used in combination with mercurial diuretics. The optimal plan must be worked out for the individual patient, taking into consideration the effectiveness and the convenience of the two components of the treatment.

Diuretics other than mercurials may be employed in combination with sodium chloride restriction but are generally not so effective.

II. *Nephrosis*

While it has been established that the osmotic pressure of plasma and the concentration of serum albumin are greatly reduced in patients with nephrosis, there is considerable evidence to indicate that retention of salt and water also plays a role in the generalized edema of nephrosis. Spontaneous diuresis sometimes occurs without an increase in the osmotic pressure of the serum or in the serum albumin level. Furthermore, replacement of the total circulating protein with parenteral serum albumin does not, in many cases, cause an increase in the concentration of serum albumin.[2] Restriction of sodium at times produces diuresis and may prevent reaccumulation of edematous fluid. Restriction of sodium, therefore, is a very helpful adjunct to the treatment of the nephrotic syndrome.

III. *Cirrhosis of the Liver*

In some cases of cirrhosis of the liver, retention of salt and water (possibly related to an excessive amount of antidiuretic hormone) may be present. Portal obstruction also may be responsible for the ascites, as may other factors. In some patients restriction of sodium may prevent the further accumulation of ascitic fluid, or may be helpful in producing diuresis. Caution should be used if paracentesis is to be performed on these patients and if ammonium chloride is concomitantly used, because of the danger of salt depletion. In some patients, however, the rapidity of recurrence of ascites may be decreased if a low sodium diet is used.

IV. *Hypertensive Vascular Disease*

Because of the considerable difference of opinion as to the value of restriction of sodium in the treatment of hypertensive vascular disease, this form of treatment must be considered to be in the experimental stage. Some practitioners advocate a strict rice diet as suggested by Kempner; others feel that restriction of sodium is helpful, and still others feel that there is no need to restrict either salt or protein intake by these patients. Many workers, however, do admit that there are some hypertensive patients who seem to improve following rigid restriction of sodium.

V. *Preeclampsia and Eclampsia*

Obstetricians in general believe that if patients gain weight inordinately or show some edema in the last trimester of pregnancy, restriction of sodium is helpful in preventing the development of preeclampsia. In the presence of eclampsia or preeclampsia, restriction of sodium is considered to be helpful.

VI. *Acute Glomerulonephritis*

The cause of edema in acute nephritis is a subject of debate, but in some cases it may be due to salt retention associated with glomerular damage and relatively normal tubular function. Restriction of sodium is indicated for patients who have the disease.

SODIUM DEPLETION: HAZARDS OF A LOW SODIUM DIET

When a normal person is placed on a restricted sodium diet his urinary sodium excretion becomes proportionately decreased so that a balance is maintained. This procedure, however, is potentially dangerous for a patient with chronic renal insufficiency. When the base-preserving mechanisms are depressed, a negative sodium balance may result. If

the sodium intake is then decreased, the signs and symptoms of salt depletion may be induced and the renal insufficiency aggravated.

The salt depletion syndrome is particularly liable to occur when patients receiving a low sodium diet are given mercurial diuretics frequently. Particular care must be exercised when this combination is used, in order to detect the early manifestations of salt depletion. The early symptoms of sodium depletion are weakness, dehydration, lethargy, muscle cramps and decreased urinary output; serum sodium and chloride concentration may fall, and the non-protein nitrogen or urea level in the blood may rise. Patients whose renal function is impaired should be carefully observed when a salt-free diet is introduced. Serial determinations of the serum sodium and of the non-protein nitrogen in the blood should be done. If the laboratory is unable to determine serum sodium, an approximation can be reached from Peters' formula based on the estimation of chloride and bicarbonate in the plasma. This formula is as follows:

$$\text{Serum Na (mEq/L)} = 0.5 \times CO_2 \text{ (mEq/L)} + 23.2 + \text{Cl (mEq/L)}^1$$

A reduction of serum chlorides alone often permits one to infer the presence of a reduction in serum sodium. The simple determination of serum chloride may permit one to recognize salt depletion when it is well-marked.

When the early manifestations of sodium depletion become apparent, sodium must be added to the diet; the addition of 1 to 3 gm. per day will usually be adequate. Patients placed on a 350 mg. sodium diet should be under careful observation. Patients, particularly those living in hot climates, should not be given this diet unless it is possible to check their condition frequently. To detect inordinate loss and to determine if the patient actually is following the salt-free diet, it is often profitable to determine the sodium excretion by measuring the sodium or chloride content of a 24-hour specimen of urine.

Salt Substitutes

There is a variety of salt substitutes on the market. It is important to emphasize that only salt substitutes free of sodium can be used by patients on the 350 mg. diet. Most of the salt substitutes are weak crystalline preparations of potassium chloride which, when used in moderation, are perfectly adequate. The various preparations on the market differ somewhat in taste, and the patient may use his own judgment as to which one he prefers. Westsal®, a liquid preparation of lithium chloride, was used by many people, but because of its possible toxic qualities it has been removed from the market.

LOW SALT DIET

Health Food Stores Survey

A number of foods, beverages and canned foods were purchased at random from some of the health food stores in San Francisco, and examined for sodium content. The particular brands and items purchased were those available at the time. No comment was made that any particular survey was being made.

The results of the study were as follows: None of the cookies, snails or muffins can be considered to be low in sodium. A considerable variation was noted in the sodium content of the various sparkling waters and soft drinks, as well as in different brands of beer. The sodium content of toothpastes also varied considerably. Two of the brands of vegetables which were labelled "no added salt" (S&W "Nutradiet" and Monarch) contained relatively little sodium, but the amount was sufficient to warrant care when included in the diet. It is to be noted that neither of these brands contained added salt, but there was a variation in sodium content from can to can because of the natural variation in concentration in the various foods. The soup bases tested contained a large amount of sodium.

SODIUM CONTENT OF FOODS AND BEVERAGES

Available at San Francisco health food stores and labelled low in salt. The amounts listed represent actual determinations on random purchases of one or two samples. Each datum represents a separate sample.

I. Baked Goods:	*Na per Gram*	*Na per Av. Serving*
Bread, white:		(1 slice=approx. 30 gm.)
Golden Crescent, unbleached	1.8 mg. per gm.	55 mg. per slice
Golden Crescent	0.5 mg. per gm.	15 mg. per slice
Golden Crescent	0.1 mg. per gm.	4 mg. per slice
Bill Baker	0.4 mg. per gm.	11 mg. per slice
Bread, white wheat:		
Cellu (canned)	0.3 mg. per gm.	10 mg. per slice
Hohlamus (milk bread)	0.2 mg. per gm.	5 mg. per slice
Oroweat	0.6 mg. per gm.	17 mg. per slice
Bread, whole wheat:		
Golden Crescent	0.1 mg. per gm.	4 mg. per slice
Golden Crescent	0.2 mg. per gm.	5 mg. per slice
Golden Crescent	0.2 mg. per gm.	6 mg. per slice
Golden Crescent	2.3 mg. per gm.	69 mg. per slice
Rosenberg's	0.2 mg. per gm.	5 mg. per slice
Rosenberg's	0.2 mg. per gm.	6 mg. per slice
S. F. Health Food Store	0.2 mg. per gm.	7 mg. per slice
S. F. Health Food Store	0.2 mg. per gm.	7 mg. per slice
Bread, cracked wheat:		
Golden Crescent, unbleached	5.1 mg. per gm.	154 mg. per slice
Bread, soy:		
Rosenberg's	0.1 mg. per gm.	2 mg. per slice
Crackers, wheat soda:		
Cubbison's unsalted	3.2 mg. per gm.	10 mg. per cracker
Muffins:		
Rosenberg's bran, with raisins	8.6 mg. per gm.	349 mg. per muffin
Rosenberg's soy	5.2 mg. per gm.	344 mg. per muffin*
Rosenberg's soy	5.6 mg. per gm.	271 mg. per muffin*

* Muffins differed in size.

Cookies, rolled oats:	*Na per Gram*	*Na per Av. Serving*
Golden Crescent, plain	1.9 mg. per gm.	46 mg. per cookie
Golden Crescent, plain	2.4 mg. per gm.	55 mg. per cookie
Golden Crescent, raisin	1.1 mg. per gm.	23 mg. per cookie
Golden Crescent, raisin	2.4 mg. per gm.	60 mg. per cookie
Golden Crescent, raisin	2.5 mg. per gm.	60 mg. per cookie
Cookies, assorted:		
Golden Crescent, English rock	2.1 mg. per gm.	56 mg. per cookie
Golden Crescent, macaroon	0.1 mg. per gm.	2 mg. per cookie
S. F. Health Food Store, soya	1.4 mg. per gm.	28 mg. per cookie
Rosenberg's soy potato	1.9 mg. per gm.	28 mg. per cookie
Golden Crescent, soya wheat germ, fruit	2.7 mg. per gm.	67 mg. per cookie
Golden Crescent, wheat germ	1.6 mg. per gm.	37 mg. per cookie
Miscellaneous baked goods:		
Rosenberg's butterhorn	1.8 mg. per gm.	306 mg. per butterhorn
Rosenberg's raisin snail	1.8 mg. per gm.	306 mg. per snail

II. Pastes:	*Na per Gram*	*Na per Av. Serving*
Macaroni	0.03 mg. per gm.	0.1 mg. per ½ cup cooked
Semolina	0.02 mg. per gm.	0.1 mg. per ½ cup cooked
Spaghetti	0.03 mg. per gm.	0.1 mg. per ½ cup cooked
Egg noodles	0.1 mg. per gm.	3.0 mg. per ½ cup cooked

III. Beverages:

Beer:	*Na per cc.*	*Na per Av. Serving*
Acme	0.1 mg. per cc.	40 mg. per 12 oz. bottle
Wieland's	0.1 mg. per cc.	32 mg. per 12 oz. bottle
Lucky Lager	0.03 mg. per cc.	11 mg. per 12 oz. bottle
Pabst Blue Ribbon	0.03 mg. per cc.	11 mg. per 12 oz. bottle
Regal Pale	0.07 mg. per cc.	25 mg. per 12 oz. bottle
Schlitz	0.01 mg. per cc.	4 mg. per 12 oz. bottle
Cola:		
Coca-Cola	0.02 mg. per cc.	4 mg. per 6 oz. bottle
Dr. Pepper	0.03 mg. per cc.	5 mg. per 6 oz. bottle
Pepsi Cola	0.10 mg. per cc.	36 mg. per 12 oz. bottle
Miscellaneous Carbonated:		
Creme Soda, Circle A	0.01 mg. per cc.	4 mg. per 12 oz. bottle
Grape Soda, Dr. Pepper	0.12 mg. per cc.	42 mg. per 12 oz. bottle
Ginger Ale, Canada Dry	0.02 mg. per cc.	5 mg. per 8 oz. glass
Ginger Ale, Yosemite Dry	0.03 mg. per cc.	7 mg. per 8 oz. glass
Orange Soda, Yosemite	0.23 mg. per cc.	83 mg. per 12 oz. glass
Root Beer, Yosemite	0.05 mg. per cc.	18 mg. per 12 oz. glass
Seven-up	0.01 mg. per cc.	2 mg. per 7 oz. bottle
Strawberry Soda, Yosemite	0.05 mg. per cc.	18 mg. per 12 oz. bottle
Sparkling Water:		
Belfast	0.1 mg. per cc.	22 mg. per 8 oz. glass
Canada Dry	0.2 mg. per cc.	48 mg. per 8 oz. glass
Evervess	0.2 mg. per cc.	50 mg. per 8 oz. glass
Evervess	0.2 mg. per cc.	41 mg. per 8 oz. glass
Wine:		
Di Giorgio, muscatel	0.2 mg. per cc.	21 mg. per 100 cc.

IV. Dairy Products:

Cottage Cheese, curd:	*Na per Gram*	*Na per Av. Serving*
Borden's	0.2 mg. per gm.	20 mg. per 100 gm.
Rosenberg's	0.2 mg. per gm.	18 mg. per 100 gm.

V. Desserts:

Ice cream, vanilla:		
Golden State	0.8 mg. per gm.	82 mg. per 100 gm.
Sherbet, raspberry:		
Arden's	0.2 mg. per gm.	21 mg. per 100 gm.

Creme dessert, vanilla:	*Na per Gram*	*Na per Av. Serving*
Bernard's	5.9 mg. per gm.	59 mg. per 10 gm. serving
Bernard's	6.1 mg. per gm.	61 mg. per 10 gm. serving
Bernard's	7.9 mg. per gm.	79 mg. per 10 gm. serving
Orange jell:		
Vivita, "Claire's"	0.8 mg. per gm.	21 mg. per ¼ pint serving
Candy:		
Marzipan, Scandia Maid	0.3 mg. per gm.	9 mg. per 30 gm. bar

VI. Soups:

Consomme, jellied, powdered:		
Milani's	0.5 mg. per gm.	2 mg. per 3 gm. serving
Pea soup, puree:		
Twin Gable	0.2 mg. per gm.	22 mg. per 100 gm. serving
Soup base:		
Bernard's chicken	9.8 mg. per gm.	73 mg. per 7.5 gm. serving
Bernard's chicken	10.1 mg. per gm.	76 mg. per 7.5 gm. serving
Bernard's beef	14.4 mg. per gm.	108 mg. per 7.5 gm. serving
Bernard's beef	15.6 mg. per gm.	117 mg. per 7.5 gm. serving

VII. Vegetables, Canned:

Corn, whole kernel:		
Monarch	0.2 mg. per gm.	18 mg. per 100 gm. serving
Peas, sweet:		
S&W "Nutradiet"	0.1 mg. per gm.	5 mg. per 100 gm. serving
Monarch	0.1 mg. per gm.	12 mg. per 100 gm. serving

Tomato Juice:	*Na per cc.*	*Na per Av. Serving*
S&W "Nutradiet"	0.1 mg. per cc.	5 mg. per 100 cc. serving
"Dietone"	0.03 mg. per cc.	3 mg. per 100 cc. serving

VIII. Tooth Paste and Powder:

Pastes:	*Na per Gram*
Pepsodent	53.73 mg. per gm.
Pepsodent	64.86 mg. per gm.
Squibb	2.41 mg. per gm.
Powders, ammoniated:	
Colgate	2.2 mg. per gm.
Colgate	4.6 mg. per gm.
Dentrix	7.6 mg. per gm.

IX. Baking Powder:

Potassium	0.27 mg. per gm.	1.4 gm. per teaspoon

San Francisco Heart Association, 604 Mission Street.

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Food List and Directions for Patients on Restricted Sodium Diets

Prepared by a Committee of the San Francisco Heart Association*

GENERAL PRINCIPLES

1. All foods are to be prepared and seasoned without the addition of salt, baking powder or soda. Only compressed yeast is to be used as a leavening agent. Read all labels to note additions of salt or sodium in any form.

2. Avoid medications unless ordered by your physician. Do not use salt and/or soda for a toothpaste.

3. Amounts of meat, milk, eggs and specified vegetables are limited because of high natural sodium content.

4. Avoid commercially prepared "salt-free" products except with permission of your physician.

350-MILLIGRAM SODIUM DIET (BASIC DIET)

Selection of Foods

FRUITS

Amounts: Not limited.

Use as desired: All types, fresh, frozen or canned.

CEREALS AND BREADS

Amounts: Not limited, except as noted.

Use as desired: Cooked cereals without salt; puffed rice, puffed wheat, shredded wheat; specially prepared salt-free yeast breads, Passover matzoths, macaroni, spaghetti, noodles, rice, flour.

Avoid: Quick-cooking cereals, dry cereals except as listed, breads with salt, soda, graham and other commercial crackers, pretzels, pancakes, waffles, muffins, biscuits, self-rising flours.

VEGETABLES

Amounts: Not limited, except as noted.

Use as desired: Fresh, frozen or specially canned without salt: asparagus, avocado, green beans, broccoli, Brussels sprouts, cabbage, corn, carrots, endive, lettuce, mushrooms, onions, parsnips, peppers, sweet potato, white potato, radishes, rutabagas, soy beans, squash, tomatoes, turnip greens; fresh or specially canned peas and green lima beans, dried beans, dried peas, lentils.

Avoid: Canned vegetables with salt, canned vegetable juices, artichokes, beets, celery, chard, dandelion greens, kale, mustard greens, spinach, sauerkraut, frozen peas, frozen lima beans.

EGG

Amounts: One.

MEAT, FISH, POULTRY

Amounts: 4 ounces.

Use as desired (but not more than total of 4 ounces): Beef, lamb, pork, veal, chicken, turkey, rabbit, quail, duck, goose, salmon, halibut, codfish, liver (less than 100 mg. sodium per 100 gm. See sodium content of meat).

Avoid: Ham, bacon, salt pork, corned beef, corned pork, dried beef, canned meats or fish or poultry, sausage, luncheon meats, shellfish, kidney, heart, brains (more than 100 mg. sodium per 100 gm. See list of sodium content of meat).

MILK AND CREAM

Amounts: Half cup.

Use whole milk, skimmed milk, table or whipping cream. (The amount of dialyzed milk that may be used is not limited. One low sodium milk called Lonalac® is available at drug stores.)

Avoid: Buttermilk, cheese.

FATS

Amounts: Not limited, except as noted.

Use as desired: Sweet butter, salad oils, shortenings, salad dressings made at home without salt.

Avoid: Salted butter, bacon fat, peanut butter, margarine, commercial salad dressings.

SWEETS AND DESSERTS

Amounts: Not limited, except as noted.

Use as desired: Sugar, honey, jelly, jam, marmalades, plain gelatine, puddings (cornstarch, tapioca, rice) made with milk allowed (see under milk and cream) or low sodium milk, pie without salt in crust, specially prepared cookies, unsalted nuts, unsalted popcorn, homemade candies, chewing gum.

Avoid: Molasses, syrups with salt, commercial pudding mixes, desserts containing baking powder or baking soda or salt, commercial ice cream, commercial bakery products, salted nuts, potato chips, salted popcorn.

BEVERAGES

Amounts: Not limited, except as noted.

Use as desired: Coffee, tea, Sanka, Postum, fruit juices, low-sodium milk, milk as allowed, chocolate made from milk allowed (see under milk and cream) or low sodium milk (use plain cocoa). Carbonated and alcoholic beverages as allowed by the physician.

Avoid: Prepared chocolate drinks, buttermilk.

MISCELLANEOUS

Amounts: Not limited, except as noted.

Use as desired: Allspice, bay leaves, caraway seeds, cinnamon, chocolate (not Dutch process), curry powder, garlic, ginger, mace, mustard powder, nutmeg, paprika, pepper, rosemary, sage, sesame seeds, thyme, turmeric, vinegar, lemon extract, vanilla extract, peppermint, walnut and maple extracts.

Avoid: Salt, mixtures of spices containing salt, onion salt, garlic salt, celery salt, catsup, pickles, relishes, meat sauces, baking powder, baking soda, prepared mustard.

SOUPS

Amounts: Not limited, except as noted.

Use as desired: Homemade, using only the foods and seasonings allowed.

Avoid: Bouillon cubes, canned soups, dehydrated soups.

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SODIUM CONTENT OF VEGETABLES AND MEATS*

Sodium Content of Fresh Vegetables (per 100 gm.)

	Na per 100 gm.	*Av. Serving*	*Sodium per Av. Portion*
A. Low (below 15 mg. per 100 gm.):			
Asparagus	2 mg.	6 stalks	2 mg.
Avocado	3 mg.	½ avocado	3 mg.
Beans, green	1 mg.	½ cup	1 mg.
Beans, fresh lima	1 mg.	½ cup	1 mg.
Cabbage	5 mg.	½ cup	5 mg.
Corn	0.3 mg.	½ cup	0.3 mg.
Lettuce	12 mg.	1/6 head	6 mg.
Mushrooms	5 mg.	5	3 mg.
Onions	1 mg.	¼ onion	0.3 mg.
Parsnips	7 mg.	½ cup	7 mg.
Peas	1 mg.	½ cup	1 mg.
Peppers	0.6 mg.	¼ pepper	0.15 mg.
Potato, sweet	4 mg.	½ cup	4 mg.
Potato, white	0.8 mg.	½ cup	0.8 mg.
Radishes	9 mg.	3	3 mg.
Rutabagas	4 mg.	½ cup	4 mg.
Soy beans	4 mg.	½ cup	4 mg.
Squash	0.5 mg.	½ cup	0.5 mg.
Tomato	3 mg.	1	2 mg.
Turnip leaves	10 mg.	½ cup	10 mg.
B. Moderate (16 to 40 mg. per 100 gm.):			
Broccoli	16 mg.	½ cup	16 mg.
Brussel sprouts	16 mg.	½ cup	16 mg.
Carrots	31 mg.	½ cup	31 mg.
Cauliflower	34 mg.	½ cup	34 mg.
Endive	18 mg.	4-5 leaves	4 mg.
Parsley	28 mg.	1 sprig	0.2 mg.
Turnips	37 mg.	½ cup	37 mg.
C. High (above 40 mg. per 100 gm.):			
Artichoke	43 mg.	1 whole	86 mg.
Beets	110 mg.	½ cup	110 mg.
Celery	110 mg.	2 stalks	55 mg.
Chard	200 mg.	½ cup	200 mg.
Dandelion green	76 mg.	½ cup	76 mg.
Kale	110 mg.	½ cup	110 mg.
Mustard greens	48 mg.	½ cup	48 mg.
Spinach	82 mg.	½ cup	82 mg.

Sodium Content of Meats and Seafood

A. Low (below 50 mg. per average serving of 100 gm.):	
Quail	35 mg.
Rabbit	47 mg.
Salmon	48 mg.
Tripe, pickled	46 mg.
Turkey	40 mg.
Veal	48 mg.
B. Moderate (50 to 100 mg. per average serving of 100 gm.):	
Beef, lean	51 mg.
Chicken breast	78 mg.
Cod	60 mg.
Duck breast	68 mg.
Neck sweetbread	96 mg.
Beef heart	90 mg.
Beef tongue	100 mg.
Goose	76 mg.
Halibut	56 mg.
Lamb chop	98 mg.
Lamb roast	78 mg.
Oysters	73 mg.
Pig liver	77 mg.
Stomach sweetbread	57 mg.
Pork	58 mg.
Turkey	69 mg.
C. High (100 to 200 mg. per average serving of 100 gm.):	
Beef kidney	210 mg.
Chicken leg	110 mg.
Clams	180 mg.
Calf liver	110 mg.
Goose liver	140 mg.
Lobster	210 mg.
Pig brain	150 mg.
Scallops	150 mg.
Shrimp	140 mg.

* (Mead Johnson tables.)

BEVERAGES (Mead Johnson)

Beer	19 mg. per 8 oz. glass
Brandy	1 mg. per 1 oz. glass
Coca-Cola	2 mg. per 6 oz. bottle
Gin	0.02 mg. per 1 oz. glass
Ginger ale	19 mg. per 8 oz. glass
Root beer	19 mg. per 8 oz. glass
Whiskey	0.01 mg. per 1 oz. glass
Wine, port	4 mg. per 100 cc. glass
Wine, sauterne	10 mg. per 100 cc. glass

SODIUM CONTENT OF TAP WATER

The sodium content of tap water may vary greatly between communities. The patient should consult his physician as to the amount of sodium in the local water supply. Tests of samples in four zones in San Francisco showed a content of 1 mg. per 100 cc. in each zone.

INCREASING THE SODIUM CONTENT OF THE DIET

The following foods contain approximately 100 mg. of sodium in the amount specified. Any combination may be used to increase the diet by the amount of sodium desired.

a. 2 eggs
b. 6 ounces milk (¾ cup)
c. ½ slice regular bread
d. 2 teaspoons salted butter
e. 3½ ounces meat, fish, or poultry
f. ½ ounce cheese

RECIPES

Yeast Bread or Rolls

Place in a large mixing bowl: 2 tablespoons shortening; 2 tablespoons sugar.
Add: 2 cups boiling water; cool to lukewarm.
Dissolve: 1 yeast cake in ¼ cup lukewarm water.
Add: Yeast to lukewarm shortening and sugar mixture.
Add: 3 cups sifted bread flour; mix ingredients well, gradually add 3 cups sifted bread flour.

Mix well with each addition. Use only enough of the flour to prevent sticking, turn onto floured board and knead until mixture is smooth and elastic to the touch, and bubbles may be seen under the surface. Return to bowl, cover and let rise in warm place until double in bulk. Cut down. Turn onto slightly floured board and knead and shape into loaves or rolls. Place in greased loaf pan or on greased baking sheets. Cover and let rise in warm place until double in bulk. Bake bread in hot oven 425°F. for 15 minutes, then reduce to moderate oven 375°F. and bake for 30 to 35 minutes longer. For rolls bake in hot oven 425°F. for 15 to 20 minutes.

Sugar Cookies

Blend together: 1 cup granulated sugar; 1 cup shortening or sweet butter.
Add: 3 eggs, well beaten; 4 cups sifted flour; 2 tsp. vanilla or lemon extract.

Roll out on lightly floured board until quite thin. Sprinkle with granulated sugar. Cut with cookie cutter. Bake in moderate oven 375°F. for 8 to 10 minutes. Yield: 40 cookies.

Chocolate Cookies

Beat well: 2 eggs.
Add: 1 cup sugar, beat until mixture is light and creamy.
Melt: 2 squares unsweetened chocolate in ½ cup shortening or sweet butter.
Add: Chocolate mixture to egg and sugar mixture.
Add: ⅔ cup sifted flour; ½ teaspoon vanilla; ½ cup chopped walnuts; mix thoroughly.

Turn into greased 8-inch square pan and bake in moderate oven 375°F. for 25 minutes. Cool and cut into squares before removing from pan. Yield: 25 cookies, 1½ inch square.

Salt-Free Pie

Use regular recipe for crust, omitting salt. Use fruit with sugar and spices as desired for filling.

General List of Allowable Foods

The following table lists foods that are of importance to patients receiving a strict 350-mg. sodium diet. Listed in the column to the left are foods that can be used as desired. All foods listed in the middle column are to be avoided by patients receiving a 350-mg. sodium diet. In the column to the right are foods that are to be taken in small amounts to supplement the basic diet, depending upon the sodium allowance.

Low Sodium Foods—Use as Desired	High Sodium Foods—Avoid Completely in 350-mg. Sodium Diet	Intermediate Sodium Foods—Amounts Used Depend on Sodium Allowance
Fruits:		
All types		
Cereals and breads:		
Cereals cooked without salt, puffed rice, puffed wheat, shredded wheat, salt-free bread, Passover matzoth, macaroni, spaghetti, noodles, rice, flour.	Pancakes, waffles, biscuits, muffins, salted crackers, pretzels, self-rising flours, salted cereals.	Regular bread (approx. 200 mg. sodium per slice).
Vegetables:		
Vegetables of low sodium content (see list), except peas and lima beans (fresh, frozen or specially canned without salt). Dried beans, peas, lentils.	Vegetables canned with salt, vegetable juices with salt, sauerkraut.	Vegetables of higher sodium content (see list).
	Meat, fish, poultry:	*Egg* (40 mg. sodium per egg):
	Ham, bacon, salt pork, dried beef, corned beef, corned pork, canned meat, fish or poultry, luncheon meats, smoked fish.	See list of sodium content of meats, fish, poultry.
Milk and cream:		
Low sodium milk (Lonalac).		Milk (125 mg. sodium per 8 oz.), table cream (25 mg. sodium per 2 oz.), cheese (approx. 200 mg. sodium per ounce).
Fats:		
Sweet butter, salad oil, shortenings, salad dressings made at home without salt.	Bacon fat, salad dressings with salt.	Salted butter (approx. 100 mg. sodium per 2 teaspoons); margarine (110 mg. sodium per 2 teaspoons).
Sweets and desserts:		
Sugar, honey, jelly, jam, marmalade, plain gelatine, cornstarch, tapioca, unsalted nuts, unsalted popcorn, homemade candies, chewing gum, pie without salt, puddings made with low sodium milk, specially prepared low sodium cookies.	Desserts leavened with ordinary baking powder or soda; salted nuts, salted popcorn, potato chips; commercial bakery products; ready-to-use pudding, ice cream, gelatine, cake and pie crust mixes.	Commercial ice cream (approx. 100 mg. sodium per 3 oz.).
Beverages:		
Coffee, tea, Sanka, Postum, fruit juices, low sodium milk, cocoa made from low sodium milk.		Carbonated and alcoholic beverages (see list), to be used as physician allows; buttermilk, 310 mg. sodium per 8 oz.
Miscellaneous:		
Allspice, bay leaves, caraway seeds, cinnamon, chocolate (not Dutch process), curry powder, garlic, ginger, mace, mustard powder, nutmeg, paprika, pepper, rosemary, sage, sesame seeds, thyme, turmeric, vinegar, vanilla, lemon, peppermint, walnut, or maple extracts, cream of tartar.	Salt, mixtures of spices containing salt, onion salt, garlic salt, celery salt, catsup, pickles, relishes, olives, meat sauces, baking powder or baking soda, prepared mustard.	
Soups:		
Homemade, using foods allowed.	Bouillon cubes, canned soups, dehydrated soups.	

San Francisco Heart Association, 604 Mission Street.

Conservative Management of Third Trimester Bleeding

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SUMMARY

In a series of 99 patients with bleeding in the third trimester of pregnancy the absence of any maternal mortality and a gross fetal mortality of 8.9 per cent speak well for the conservative observation policy by which these patients were managed.

Although cost of hospitalization is a drawback to the employment of this approach, it is more than compensated for by reduced operative interference and increased safety for mother and child.

THE sight of freely flowing human blood arouses powerful emotions in both layman and physician. Terror overwhelms the former while an urge to stanch the flow grips the latter. Although this curative urge is a laudable one, it can on occasion be as dangerous as it is well-intentioned. When hemorrhage leads to ill-advised methods aimed at its arrest, such efforts may occasionally jeopardize the patient's life more than the blood loss itself. Nowhere is this better illustrated than in the problem of bleeding during the third trimester of pregnancy.

This presentation is concerned only with third trimester hemorrhage prior to the onset of labor. Vaginal bleeding which starts with the onset of labor or develops during its progress presents problems of diagnosis and calls for methods of management which differ materially from those employed when active hemorrhage is not complicated by uterine labor contractions. For this reason it would seem advisable, in examining the problem of third trimester bleeding, to limit discussion to a single set of circumstances.

Concern over the possible presence of placenta praevia has been the principal determining factor in management of all cases of third trimester bleeding. Most textbooks, for example, still emphasize the dictum that such bleeding, especially when painless, is to be considered due to placenta praevia until proven otherwise. Fear of the occasional massive hemorrhage produced by placenta praevia has led, heretofore, to employment of immediate, active therapeutic measures whenever a patient near term has vaginal bleeding of any considerable degree.

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From the Division of Obstetrics and Gynecology, University of California School of Medicine, San Francisco.

Unfortunately, this attitude toward the problem has produced disappointing results in two general ways:

1. In the presence of placenta praevia, there has been with this method of management a maternal mortality rate of 5 to 10 per cent and a fetal mortality rate of 40 to 60 per cent.

2. In the absence of placenta praevia patients with third trimester bleeding due to other conditions have too often been subjected to unnecessary radical procedures, notably cesarean section.

These undesirable results have led several able obstetricians to reexamine the problem of third trimester bleeding in a more critical light in the hope of improving methods of management.[1, 2, 3, 4] Out of this has come emphasis on two important principles:

1. Only about 20 per cent of all third trimester bleeding is due to placenta praevia.

2. Third trimester bleeding, even when due to placenta praevia, will cease spontaneously in 24 hours in almost all cases if the patients simply have complete bed rest with mild sedation.

The second of these principles meets with great skepticism from the average physician—indeed, even from trained obstetricians. Most of them are convinced that once extensive hemorrhage commences in a case of placenta praevia, the patient will bleed to death if left alone and not treated with one of the immediate, specific hemostatic measures designed for this condition. Yet the recent literature presents large series of cases which attest the incorrectness of this view. Eastman,[1] for example, stated that in 304 cases of placenta praevia ". . . in no single instance was an initial hemorrhage fatal *except after extensive vaginal manipulation;* in no single instance was a subsequent hemorrhage fatal *except after vaginal manipulation.*" (Italics supplied.) This statement emphasizes the fact that in hemorrhage from placenta praevia the specific vaginal or rectal procedures aimed at diagnosis and arrest of bleeding may often increase the latter enough to produce severe or fatal hemorrhage.

There is great need, therefore, for a treatment method which will arrest hemorrhage in the third trimester *before* specific diagnostic and therapeutic procedures are undertaken. The authors believe that the conservative observation regimen in third trimester bleeding is such a method.

A policy of initiating the treatment of third trimester bleeding by watchful waiting offers a number of very definite advantages. Since bleeding will

cease within 24 hours in over 95 per cent of the cases, the following benefits accrue:

1. Time and opportunity are given the clotting and reparative processes of nature to heal the source of bleeding.

2. Time is available in which to replace by transfusion any blood loss which may temporarily have rendered the patient a poorer risk for delivery or operative procedures. Moreover, blood loss renders a patient more susceptible to infection. If *immediate* manipulative procedures are carried out, infection is liable to be carried in—and not always by organisms sensitive to chemotherapy or antibiotics.

3. If the bleeding has occurred *early* in the third trimester, non-interference and continued observation will often permit the growth of a premature fetus to a stage which gives a greatly increased chance of survival following delivery. Increased fetal salvage is a tremendously important benefit.

4. The ample time afforded permits the application of adequate diagnostic procedures, making likely a more accurate diagnosis before specific therapy is undertaken.

5. Consequently, there is a greater avoidance of radical operative procedures such as cesarean section. In the excitement and concern of the initial hemorrhage, such measures may often seem indicated, but later, more deliberate judgment often reveals them to be ill-advised.

6. This policy affords time for the management of any other coincidental complications of pregnancy which might in any way further compromise the patient's condition at delivery.

7. This policy permits the carrying out of special diagnostic or therapeutic procedures in a scheduled manner rather than in haste, with consequent efficient preparation of equipment and hospital personnel.

The literature presents ample evidence of the safety of conservative observation as an initial policy in managing placenta praevia. Its desirability is obvious in the light of the benefits enumerated. In the authors' opinion the same is true of the milder degrees of premature separation of the normally implanted placenta which may occur during the third trimester before the onset of labor, and which often result in external bleeding. Many patients with mild separation—who might otherwise have been subjected to premature delivery or even cesarean section—appear to have quite satisfactory healing and to go on to later simple vaginal delivery when the opportunity is given under this restrained program.

If the third trimester bleeding is caused by cervical lesions, the conservative policy becomes even more significant. Such lesions may, in many instances, give rise to episodes of fairly extensive hemorrhage, and unfortunately the hemorrhage still is looked upon by many physicians as an indication for immediate cesarean section, without adequate diagnostic investigation or trial of the conservative program. Adherence to the conservative policy in such cases, with adequate employment of further diagnostic procedures, would, of course, protect the patients against compromise of their later childbearing careers by the presence of a uterine scar.

THE CONSERVATIVE OBSERVATION REGIMEN

In order to examine with more understanding the series of cases to be presented herein, an outline of the authors' policy of management for patients who have bleeding during the third trimester of pregnancy is in order:

1. During pregnancy the patient is instructed to report any bleeding immediately by telephone, day or night.

2. Any patient who has such bleeding is hospitalized at once, transportation being preferably by ambulance, especially when the bleeding is profuse. It is impossible to overemphasize the importance of refraining from any manipulations at home before transport to the hospital. *No attempt at diagnosis should be made in the home by vaginal or rectal examinations.* This may lead to death and serves no purpose. *No manipulations designed to arrest blood loss, such as binders or vaginal packing,* should be carried out in the home. They do not accomplish their purpose and they may be lethal. The important thing to remember is that the bleeding will stop with bed rest.

3. The patient is observed at once on admission to the hospital, where she receives a general physical examination, including abdominal palpation, *but no rectal or vaginal examination.* She is placed flat in bed and very mild sedation is given if there is any tendency to restlessness.

4. Immediately upon entry blood is drawn for grouping and cross-matching, and this is carried out *as soon as possible.* Thereafter, a unit of blood is kept nearby ready for immediate use. Patients under observation for third trimester bleeding are kept continually cross-matched with units of blood reserved for them until the possibility of extensive hemorrhage has been ruled out by appropriate measures. If no other advantage whatever accrued from the conservative observation regimen, this single one of gaining time for the obtaining of blood for transfusion would alone justify the method; its importance cannot be overestimated.

5. Should the patient have a degree of anemia or shock on admission, blood transfusion is started as soon as it is available.

6. Practically continuous observation of the patient is maintained so long as active bleeding continues—usually not more than a matter of a few hours. Thereafter, nurse and physician observation is intermittent but frequent.

7. After cessation of bleeding, other diagnostic procedures, such as x-ray placentography, may be undertaken—except for methods involving rectal or vaginal manipulation.

8. Observation and complete rest are maintained for a minimum of one day, and at least three days

should elapse if the clinical picture at all suggests placenta praevia. In a small percentage of cases observation will be terminated in less than one day for a variety of reasons: spontaneous onset of labor, persistent or recurrent bleeding of significant degree, worsening of the general condition as in premature separation, virtual ruling out of serious conditions as by x-ray placentography, and the like.

9. The elective termination of observation after one to three days will depend upon general factors. For example, a patient with a clinical picture highly suggestive of placenta praevia with bleeding at the 34th week of pregnancy and a correspondingly small fetus will be kept on bed rest under observation, if possible, until the fetus reaches a larger size. No specific diagnostic procedure which might necessitate delivery will be carried out until the chances for fetal survival are satisfactory. On the other hand, a patient with a history of cervicitis earlier in pregnancy, admitted because of only slight bleeding in the third trimester, might very well be permitted ambulation in the hospital after a day or two of bed rest; absence of any further bleeding might then indicate simple sterile speculum examination to visualize the cervical bleeding point and treat it locally; the patient might then be discharged to her home.

10. In all cases in which there is even a remote suspicion of placenta praevia, sterile vaginal examination to rule it out is performed before discharge is considered. It is *always* performed with "double set-up" *in the operating room*, with cross-matched blood present and preparations completed for the performance of cesarean section should it become necessary.

11. Further management of the case will, of course, depend upon the findings at sterile vaginal examination and upon the entire clinical situation.

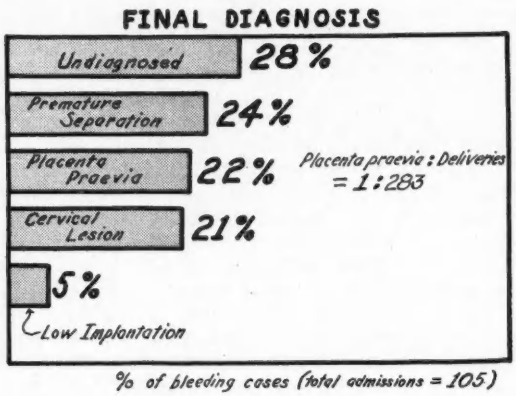
The following report of a series of cases demonstrates what can be accomplished with the regimen outlined.

PRESENTATION OF CASES

The conservative observation regimen for the management of third trimester bleeding has been employed in the University of California Hospital since 1943. During the seven years 1943-49 inclusive, 99 patients, 38 primiparae and 61 multiparae, were admitted to the hospital on this indication alone, without regard to whether or not any abdominal pain was present. Patients in whom bleeding was associated with labor or the onset of labor were not included in this group. In none of these 99 patients, so far as could be determined, was bleeding simply a matter of the appearance of a slight amount of bloody "show." Six of the patients had two admissions for bleeding, and whether or not a specific diagnosis had been made on the previous admission, the management was the same as that given in any other case of third trimester bleeding.

As six of the 99 patients were admitted twice, the number of admissions was 105. The final diagnosis

CHART 1



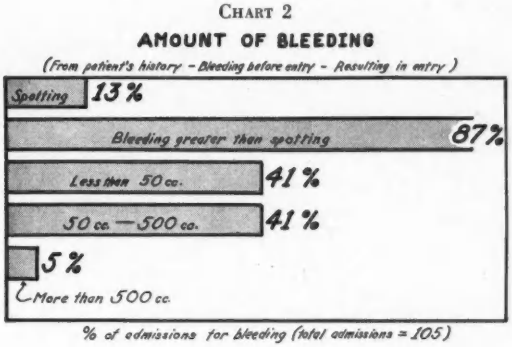
reached in these 99 cases (Chart 1) are illuminating. A case was considered "undiagnosed" unless a specific condition was actually demonstrated by cesarean section, by sterile vaginal examination, by sterile speculum examination, or by definite placental evidence of premature separation of the placenta following delivery. It is of interest, then, that the largest group shown on the chart (28 per cent) was made up of "undiagnosed" cases.

In the 32 admissions in which diagnosis was not established, there was only vaginal spotting prior to admission in six instances, more than spotting but less than 50 cc. of blood loss in 16 instances, loss of between 50 cc. and 500 cc. of blood in ten instances. In ten of these instances certainly (and possibly in a total of 26) cesarean section might well have been considered by some physicians. Under the conservative observation regimen the patients were discharged from the hospital in from one to thirty days after admission in 18 instances, and in 14 cases spontaneous labor began (in from several hours up to 16 days after admission) while the patient was under observation.

It is noteworthy also that in 21 per cent of the cases there was vaginal bleeding during the third trimester from simple cervical lesions. Of the 22 admissions of such patients, five were for spotting only, nine were for blood loss less than 50 cc., and eight for loss between 50 cc. and 500 cc. There was no blood loss greater than 500 cc. from a cervical lesion. Again one might raise the question of what might have been recommended by physicians inclined to resort to cesarean section for appreciable bleeding in the third trimester of pregnancy.

Chart 2 shows the amounts of blood lost in the bleeding episode which resulted in admission to the hospital. Since the amounts are estimated from the patients' histories, they are not, of course, very reliable; but they do give an indication of the degree of bleeding which may be encountered. Of some significance is the fact that in this series, bleeding from a cervical lesion was not more than 500 cc. in any case, while in all cases of placenta praevia there was more than "spotting." Of the

CHART 2



five patients who bled more than 500 cc. prior to admission, four had placenta praevia and one had premature separation of the placenta. Among the 14 admissions for spotting only there were three cases of premature separation. About one-fourth of the patients with placenta praevia had bleeding of less than 50 cc., about one-half lost between 50 cc. and 500 cc. of blood, and the remaining one-fourth lost more than 500 cc. It may be stated as a rather rough conclusion that, as might be expected, the greater the bleeding the greater the likelihood that placenta praevia is the cause, and the smaller the bleeding the greater the chance that the patient has a cervical lesion or that the cause cannot be diagnosed. But the overlap of cases is so great that no diagnostic dependence should be placed on the degree of vaginal bleeding; consequently, extensive hemorrhage need not invariably lead to heroic therapeutic measures, nor, by the same token, should minimal bleeding be regarded too lightly.

The problem of "spotting" bleeding in the last trimester of pregnancy is, from a practical point of view, an awkward one. Moreover, it calls to attention the only objection of consequence which can be raised against the conservative observation regimen in the management of third trimester bleeding —its cost. Theoretically, bleeding of *any* degree in the third trimester should be treated as though caused by placenta praevia until proven otherwise. But in many patients who are near term, Braxton-Hicks contractions are strong enough to produce the discharge of a small amount of blood-tinged mucus from the cervical canal; undoubtedly this was the cause of bleeding in some of the undiagnosed cases in this series in which there was "spotting" only. Moreover, it is the common practice of obstetricians to perform rectal examinations near term to determine the cervical status and the station of the presenting part. The authors would venture the guess that about one-quarter of such examinations are followed within 24 hours by very slight bloody vaginal discharge resulting from the minimal cervical trauma. It is manifestly impossible to admit all such patients to the hospital. Good clinical judgment will determine which of them may safely be observed at home or examined by speculum in the office. But good judgment must include recognition of the dangers of cervical manipulation and the benefits of simple bed rest in third trimester bleeding.

And clinical judgment should never become so lax, or so warped by the patient's economic status, that hospitalization is not ordered when any appreciable bleeding occurs in the third trimester, even at term. Certainly a history of bleeding of more than a tablespoonful should, in any circumstances, be an ironclad indication for hospitalization. And even bleeding of less than this amount should be regarded with grave suspicion if it occurs suddenly without warning.

It is especially important to point out that 33 patients in this series gave a history of some bleeding in pregnancy prior to the episode which resulted in hospital admission. This point was often not revealed during the course of prenatal care, but only came to light on careful questioning at the time of entry. The fact that one-third of the patients in this series gave a history of slight bleeding in the first or second trimester of pregnancy is considered by the authors as admonition to be doubly vigilant for hemorrhagic accidents of late pregnancy in any case in which such seemingly minor signs occur during the course of prenatal care. Eighteen per cent of patients with placenta praevia, 25 per cent of those with premature separation, and 48 per cent of those with cervical lesions had such a history.

The extent to which the policy of conservative observation was followed is shown in Chart 3. In ten cases observation was not continued for even as long as a few hours, for the reasons noted on the chart. The single elective termination of observation must, unfortunately, be charged to the wavering of a worried staff member in his adherence to the principle. Thirteen patients were observed for less than 12 hours—in most cases simply because spontaneous labor began. Of greatest importance is the fact that in this series of 105 admissions only 3.8 per cent of patients continued to bleed during the

CHART 3

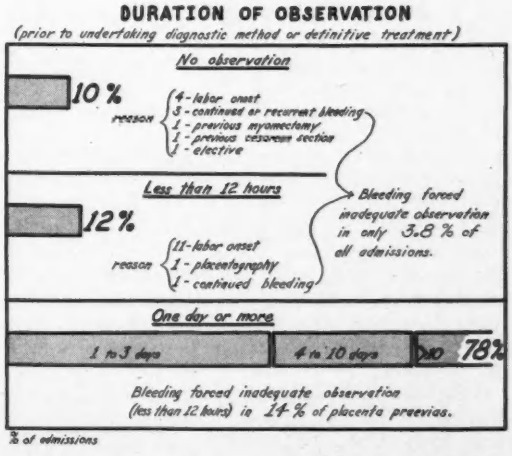
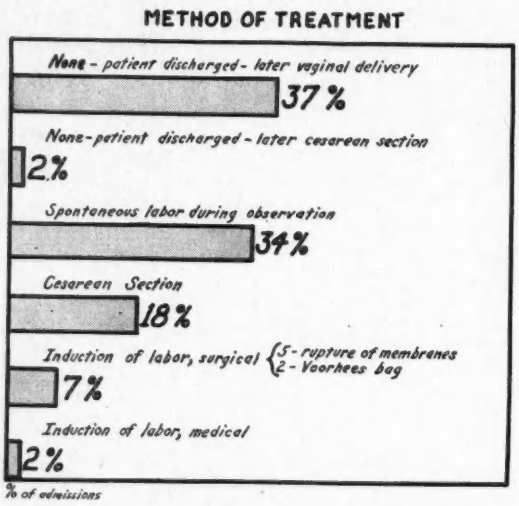


CHART 4



first 12 hours of observation to a degree sufficient to render definitive therapy mandatory. This is good confirmation of the statement made heretofore that in more than 95 per cent of cases of third trimester bleeding the bleeding will stop spontaneously if the conservative observation regimen is put into effect at the outset. In the case of patients with placenta praevia, as might be expected, continued bleeding caused termination of observation in a higher percentage of cases (14 per cent), but other factors also played a part in this decision.

As has been implied in the foregoing discussion, a prime aim of the conservative approach to third trimester bleeding is to avoid the use of cesarean section in the treatment of the condition unless it is adequately indicated. Chart 4, therefore, presents a breakdown of the methods of treatment used in the 105 admissions. It will be noted that cesarean section was required in only 18 per cent of admissions, a fact which ought to be enlightening to the general surgeons throughout the country who resort to cesarean section on the slightest indication, even minimal degrees of bleeding. It should be noted that in more than two-thirds of the cases no treatment at all was required and the patients were sent home or else began labor spontaneously during observation.

The hydrostatic bag was used only twice to induce labor after a diagnosis of placenta praevia had been made by sterile vaginal examination. Bags were used in two other patients in this series after the onset of labor. In general it is felt that the Voorhees bag is almost obsolete as a desirable method for the treatment of placenta praevia, but on rare occasions and in special circumstances (intra-uterine fetal death, for example) it may be the safest procedure for the patient.

One of the two cases in which the patient was discharged after an initial episode of bleeding and later had cesarean section is of especial interest.

CASE REPORT

The patient was admitted in the 34th week of pregnancy after having bled more than 50 cc. painlessly. In view of the small fetus, she was observed for 21 days before definitive diagnosis was attempted by sterile vaginal examination. This procedure was carried out under double set-up in the operating room. The examining house officer observed no cervical lesion and encountered a long rigid cervix, through the internal os of which he was unable to insinuate a finger without risking undue trauma. No bleeding was occasioned by this examination and the patient was ambulated without further bleeding. The case was classified as undiagnosed, and the patient was discharged to be followed at home. One week later the patient was readmitted after an episode of bleeding in which more than 500 cc. of blood was lost. Bleeding again ceased entirely on bed rest, and two transfusions brought the blood level up to normal limits. After five days of observation, sterile vaginal examination under double set-up was again carried out. On this occasion a definite diagnosis of placenta praevia was made. Delivery of a normal, living child that weighed 3,700 gm. was accomplished by cesarean section. The maternal postoperative course was afebrile.

An analysis of the 19 cesarean sections performed in the management of the 99 cases is presented in Chart 5. It will be noted that the operation was not required in any case in which there was "spotting" only. Undoubtedly this series is too small for this fact to be significant. It should also be pointed out that four of the 19 cesarean sections were indicated by conditions other than the one producing the bleeding (Chart 3)—three because of previous cesarean section, one because of previous myomectomy. It is noteworthy that two-thirds of the patients who had placenta praevia were treated by cesarean section, but of these 15 sections one was performed upon a patient who had had previous myomectomy. Cesarean section was required for only three of the 24 patients with premature separation of the placenta prior to labor. Delivery was by the vaginal route in four of the five cases in which low implantation of the placenta was diagnosed,

CHART 5

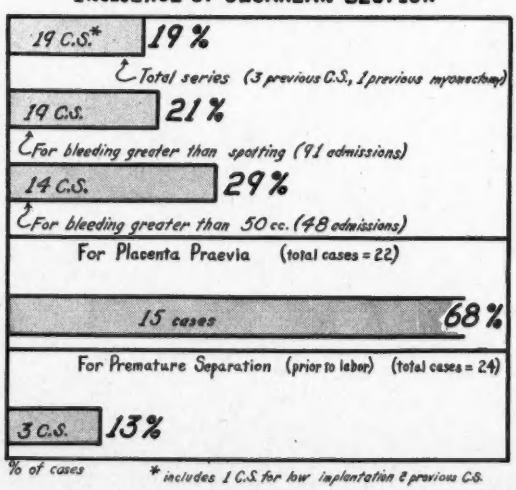


TABLE 1.—*Mortality*

MATERNAL = 0%

FETAL = 9 infants (of 101 total infants) = 8.9% gross fetal mortality

Term Mortality = 4 (of 88 term infants) = 4.5% term fetal mortality

Premature Mortality = 5 (of 13 premature infants) = 38% premature fetal mortality

(Birth weights = 1620 gms., 1740 gms., 1480 gms., 1620 gms., 1360 gms.)

Time of fetal death

Died in utero before entry (1 term, 1 premature)	2
Died in utero during observation (2 term)	2
Died intrapartum (2 premature)	2
Died neonatally (1 term, 2 premature)	3

and in the fifth case cesarean section was done because of the added indication of a previous cesarean section.

In 51 of the 105 admissions the conservative observation policy was pursued to its logical endpoint—sterile vaginal examination under double set-up. In the remaining 54 cases either spontaneous labor ensued without incident, placenta praevia was well ruled out by x-ray and sterile speculum examination was done, or cesarean section was performed without examination because of previous cesarean section. Regrettably, in the early years of this policy, one patient was sent home from the hospital without any examination purely on the basis of minimal bleeding with immediate cessation, no recurrence on ambulation, and other clinical features tending to rule out placenta praevia or premature separation. That case remains in the undiagnosed group, but it is the authors' contention that this is never a safe course to pursue.

RESULTS

Maternal and fetal deaths are shown in Table 1. In evaluating fetal salvage in these cases of third trimester bleeding it would seem permissible to correct for fetal death in utero prior to hospital admission; this occurred in two cases. Extreme prematurity is a problem of fetal salvage which is perhaps more pediatric than obstetrical, and it will be noted that the largest premature infant that died weighed only 1,740 gm. It may be said then, that in this series of 99 patients with third trimester bleeding, out of a total of 101 infants three were lost which were possibly salvageable, a corrected fetal mortality rate of 3 per cent.

In the 22 cases of placenta praevia four infants were lost, a gross fetal mortality rate of 18 per cent. This figure compares fairly well with those presented in the literature for the conservative management of placenta praevia, and it is considerably better than the usually reported fetal salvage for this condition when managed by immediate treatment (see Table 2).

TABLE 2.—*Placenta Praevia: Comparison of Immediate and Expectant Management*

	Cases	Fetal Mortality	Maternal Mortality
Generally accepted expectation	....	50–60%	5–10%
Johnson's series[1]	174	24%	0.6% (1)
Immediate management	47	47%	
Expectant management	47	6%	
Williams' series[2]	105	28%	0.9% (1)
Immediate management	64	38%	
Expectant management	41	12%	
Macafee's series[3] (all by expectant management)	191	22%	0.5% (1)

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Total morbidity for this series, by the standard obstetrical criteria, was ten cases or 10 per cent. In six of these cases, however, delivery was by cesarean section, so that the morbidity rate for vaginal delivery was 5 per cent. As the present obstetrical morbidity rate for this hospital is approximately 2.5 per cent, it is apparent that the complication of third trimester bleeding will at least double the morbidity rate of patients delivered vaginally. The morbidity rate for cesarean section in this series was 32 per cent, as compared with an overall cesarean section morbidity rate for the same seven-year period for this hospital of approximately 20 per cent.

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Pulmonary Segmental Resection for Solitary Lesions of Doubtful Character

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SUMMARY

Pulmonary cancer can be diagnosed earlier if patients with pulmonary symptoms of chronic type are given x-ray examination early, if patients over 40 years of age have a yearly roentgen examination of the chest regardless of their state of health, and if those with acute pulmonary illness are examined by x-ray within one month of the onset of illness.

Observation of a known intrapulmonary lesion of unknown character should never last for more than one month. If it persists after that period, complete investigation, including thoracotomy, should be carried out if necessary to establish an exact diagnosis. A localized intrapulmonary lesion can be removed by segmental resection so that all healthy functioning lung is conserved if the disease is benign. If, after pathological examination, the lesion is shown to be cancerous, more radical resection can be carried out.

BECAUSE of the possibility of malignant tumor, immediate further investigation is indicated in a case in which an x-ray film of the chest shows a small pulmonary shadow; but if the patient has no symptoms or practically none, the physician may be reluctant to advise immediate thoracotomy lest the operation lead to unnecessary removal of a lobe or of an entire lung. In such circumstances segmental pulmonary resection can be used to assure early diagnosis and removal of cancer if it is present, and at the same time conserve normal-functioning lung tissue.

Earlier discovery of pulmonary cancer, which at present is the only way to increase the salvage from this disease, is not difficult. Because physical examination cannot be relied on to reveal early cancer, chest roentgen films must be used freely. Ideally every adult over 40 years of age should have a chest roentgenogram or fluoroscopy once or twice a year. Certainly every patient in this age group who has a thoracic symptom ought to have this done at the *first* visit to a physician as an essential and routine part of the examination. Any patient with a known pulmonary lesion, the nature of which is not known, must have conscientious early reexamination by x-ray. A recent review by Overholt and Schmidt[5] emphasized that in cases of primary pulmonary carcinoma the period of delay before the patient reported for medical help averaged 3.8 months. The interval before the physician ordered a chest roentgen film averaged 1.6 months. Until this was done the correct diagnosis remained unsuspected. Even after the lesion had been discovered, there was usually another and consequential loss of time during which watchful waiting or antibiotic therapy was carried out. Thus the significance of a solitary pulmonary lesion was not fully appreciated and the total delay from the day of the first symptom to diagnosis averaged ten months.

Viral pneumonia, atypical pneumonia and patchy pneumonitis run their natural courses within three to four weeks. A similar clinical course can be produced by pneumonitis occurring distal to a bronchus obstructed by a cancer. The pneumonitis may clear if the obstruction lessens or as a result of antibiotic therapy. Concurrently the patient's clinical status improves. The difference between the primary and the secondary pulmonary infection is that whereas in the former the pulmonary changes nearly always disappear entirely within four weeks, in the latter residual density persists. The only way a persisting lesion can be recognized is by roentgen examination. There can be little justification for putting off a repeat chest film for longer than one month. If changes of any degree remain after that time, careful investigation including bronchoscopy, sputum studies for tubercle bacilli and other bacteria and fungi, and for tumor cells should be done. If the diagnosis is still indefinite, then immediate exploratory thoracotomy is indicated.

Although the term "exploratory thoracotomy" is glibly used in medical papers and discussions, the positive determination of the true nature of an intrapulmonary lesion by this means is not always a simple matter. When lymph nodes are involved they are easily removed for pathologic examination. If the lesion is on the surface of the lung, a specimen for biopsy can be readily removed. The earlier a lesion is, however, the deeper it is within the lung, and removing a specimen from deep within a lobe

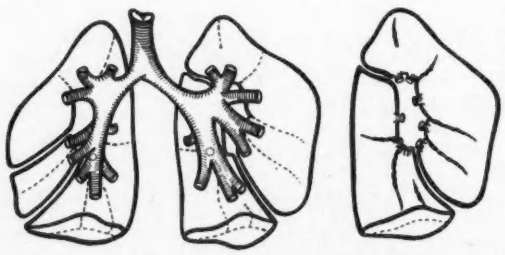

Figure 1.—*Left*—Diagrammatic representation of the lungs, showing in dotted lines the divisions into segments and the bronchial tree with the tertiary bronchi leading into individual segments. *Right*—A left lung, showing the individual segments separated by tapering lines. These represent the intersegmental veins which normally run in the planes between segments. A segmental bronchial stump is shown emerging from each segment.

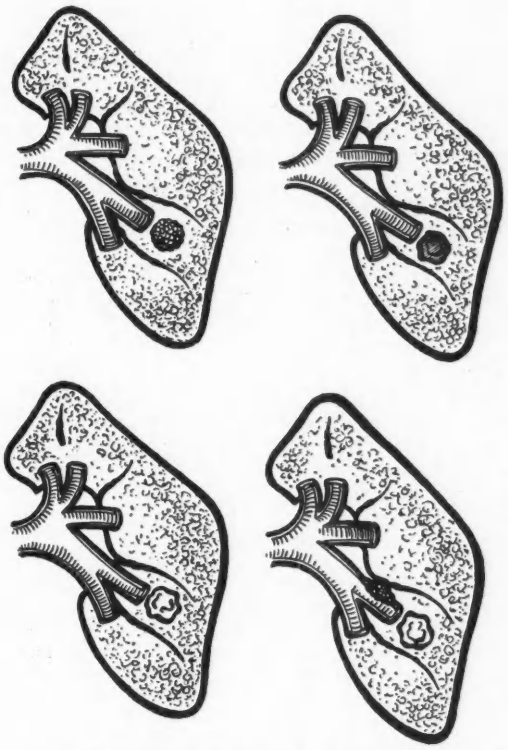

Figure 2.—Illustrating the common segmental diseases which can appear as a rounded area of density in the roentgen film. *Upper left*—A tumor mass, either benign or malignant. *Upper right*—A so-called tuberculoma. *Lower left*—A pyogenic abscess, primary. *Lower right*—A non-specific abscess distal to a partial obstruction of the segmental bronchus by tumor.

is more difficult, more traumatic, and more hazardous. A deeply situated lesion may be an abscess or a tuberculoma, and the biopsy procedure may cause dissemination of either pus or tuberculous material into the pleural cavity or the wound. Wedge-resection may be used to excise entire lesions for biopsy, which is preferable to removal of a small portion only. However, as wedge resection does not follow anatomic lines, the planes of section may include more than the diseased segment; and some of the diseased segment usually is left, traumatized and perhaps deprived of its blood supply. Although this is not necessarily unfortunate, it may be so. The segmental bronchus from a tuberculoma or tuberculous process is generally involved by tuberculous foci, and in pyogenic abscesses there may be a proximal bronchial obstruction produced by stenosis of an inflammatory or neoplastic nature. Removal of the involved segment with its vessels and bronchus not only removes all of the segmental disease, but it does so without injuring neighboring normal segments. Surgically it is a more precise and less traumatic procedure. Lobectomy involves the sacrifice of normal functioning lung and is usually unnecessary when the lesion is a benign one.

Recent improvements in the technical aspects of pulmonary segmental resection[1, 6, 7, 8, 9, 10] have sharply reduced the complications from this procedure. It can now be used freely for removal of any of the pulmonary bronchovascular segments. By this means a localized pulmonary lesion, found at thoracotomy and not suitable for direct biopsy, can be removed through anatomical planes and without contamination of the chest wall or pleura with pyogenic organisms, tubercle bacilli or tumor cells and without sacrifice of more than the one diseased segment. If immediate pathologic examination reveals malignant lesion a more extensive resection can then be done. If the disease is benign there has been very little loss of functioning lung tissue.

DISCUSSION

Two considerations deserve further discussion: the significance of solitary pulmonary shadows, and the importance of preserving pulmonary function.

Three recent papers well illustrate the facts about solitary pulmonary shadows. Grow, Bradford and Mahon[3] stated that in mass surveys of the normal working adult population, 1.4 per cent had x-ray evidence of reinfection tuberculosis and another 1.12 per cent had non-tuberculous abnormalities—a total of over 2.5 per cent with unsuspected intrathoracic disease. These investigators reported that in series of 200 exploratory thoracotomies carried out because of obscure intrathoracic disease, malignant tumor was proved in 21.5 per cent. Of 86 circumscribed pulmonary lesions, 23 per cent were malignant; of 35 lesions of atelectatic type, 35 per cent were malignant. The non-malignant lesions were of widely varied nature, but in all cases it was better to have them removed than left undisturbed. Effler, Blades and Marks[2] reported upon 24 selected cases, in each of which roentgen examination of the chest had been carried out during a routine physical examination, and in each of which a round pulmonary lesion was observed on the film. There were absolutely no symptoms in any case. The average age of the patients was only 35.3 years. When diagnosis was not established after careful hospital observation and every diagnostic effort, each case was presented at either the tumor board conference or the thoracic surgery conference at the Walter Reed General Hospital. In no case was there unanimity of opinion among the clinicians and radiologists present as to the true nature of the lesion, but in every case it was considered to be benign. Each patient was operated upon and there was no operative mortality nor postoperative morbidity. Although the average age of the patients was one at which malignant lesion is less likely to occur, approximately 15 per cent of the lesions proved to be cancer. Seven of the 24 lesions were tuberculomas. (The authors, as well as most other thoracic clinicians, believe that all tuberculomas should be excised.) All the other lesions were of kinds best treated by operation.

Johnson, Clagett and Good[4] reported upon 384

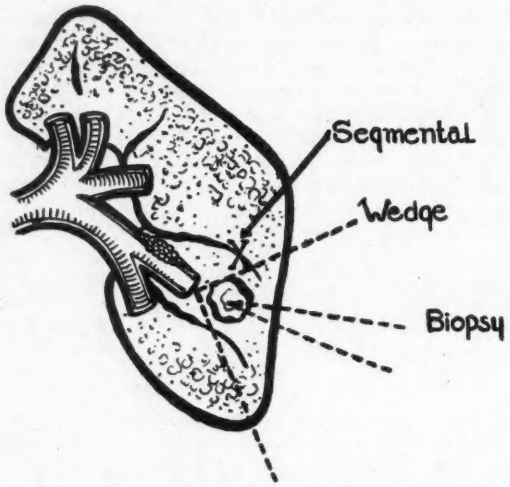

Figure 3.—A comparison of the three methods of removing a localized segmental mass. The narrow biopsy wedge may contaminate the pleura with organisms or tumor cells. The wider wedge resection effectively removes the localized mass but may not remove or reveal a proximal segmental bronchial lesion. The segmental resection, along the intersegmental planes, as illustrated by the tapering line above and below the segmental bronchus, removes the entire diseased segment. As pictured it would remove both the proximal obstructing tumor mass and the secondary abscess.

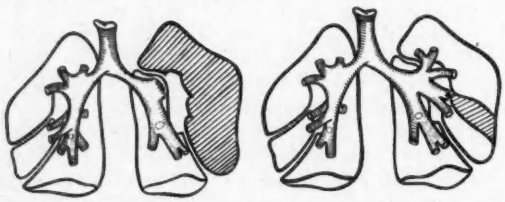

Figure 4.—*Left*—A diagrammatic illustration of the loss of lung tissue which results from lobectomy for a benign segmental disease focus. *Right*—The smaller amount of lung tissue removed by segmental resection when the disease process is benign and localized. Note the large amount of lung tissue which has been preserved.

patients subjected to thoracotomy by Dr. Clagett at the Mayo Clinic. After careful postoperative review of the records, they concluded that in 114 cases (30 per cent) the correct diagnosis could not have been made preoperatively although careful investigation was done in each case by all diagnostic methods then available. (This was before adoption of examination of the sputum for tumor cells.) Even after exploratory thoracotomy the lesions remained indeterminate in three cases. For purposes of study it was found convenient to divide the remaining 111 cases into three groups, one for mass lesions, another for bronchial obstruction lesions, and the third for miscellaneous lesions. Of the 53 mass lesions, 39 (73.5 per cent) proved malignant; of the 48 bronchial obstruction lesions, 24 (50 per cent) were malignant; of the ten miscellaneous lesions, two (20 per cent) were malignant. Thus, in 65 (58.5 per cent) of the 111 cases the lesions were malignant; and in 12 cases there were benign tumors. All of the 111 lesions were properly removed surgically. Johnson, Clagett and Good emphasized that occasionally bronchiogenic carcinoma may exist in the presence of a normal appearing chest roentgenogram. This serves to stress the importance of repeated x-ray investigation of persisting pulmonary symptoms.

Although the two lungs form impressive masses when viewed anatomically, there is no true reserve of pulmonary function. Even the activity of the adolescent and the young athlete is limited by the capacity of cardiorespiratory function. Surgical removal of lung tissue definitely restricts the patient's normal activities. Moreover, there remains the possibility of pulmonary diseases such as asthma, chronic bronchitis, tuberculosis, emphysema and bronchiogenic carcinoma as well as disease of the lungs' cardiorespiratory partner, the heart. These two groups of very serious and very common diseases often coexist. Therefore, unnecessary removal of one or more bronchopulmonary segments is to be avoided if possible.

Segmental resection may not be wise or may not be possible in certain nonmalignant conditions. In coccidioidomycosis there are often small granulomatous masses, containing mycelia, scattered throughout a lobe which contains in one segment a large granuloma or cyst. If several of these are palpable in the lobe, it may be better to remove the entire lobe. Certain cases of chronic pneumonitis, although affecting principally one segment, may also involve adjacent segments to a lesser degree. How much should be removed in a particular patient must depend upon the situation as it is found at thoracotomy. The basic consideration, however, is this: the unit of pulmonary resection should be the bronchopulmonary segment; one or more of these should be removed, depending upon the disease process, but functioning pulmonary parenchyma should be preserved whenever possible.

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Undecylenic Acid in the Treatment of Psoriasis and Neurodermatitis

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SUMMARY

Undecylenic acid in a dosage tolerated by most patients is of doubtful value in the treatment of psoriasis and neurodermatitis.

Thirty-one patients were given the drug. Exudative dermatitis developed in one case, generalized pruritus in another. One patient may have had a cardiac accident attributable to the drug.

THE reports of Perlman[4] and of Perlman and Milburg[5] have caused undecylenic acid to be widely used in the treatment of psoriasis and neurodermatitis. There have been few subsequent reports[1, 2, 6] on the efficacy of this form of therapy.

In the present study, undecylenic acid to be taken orally was prescribed in globules containing 0.44 gm. of the acid. Fourteen patients with psoriasis and 17 patients with localized neurodermatitis (lichen simplex chronicus) were treated. The daily dose prescribed was 15 to 24 globules, which was the maximum that the patients would tolerate. The patients were observed until they stopped taking the drug or until the effects of it were obvious. The period of observation varied from one to 10 months.

Of the 14 patients with psoriasis, none had clearing of the lesions which could be attributed to the taking of the acid. In one case the skin did clear coincidentally after the drug had been taken for two days.

Three patients were helped by the drug. One of these also received vitamin E concurrently, and another had improved on vitamin E but was no longer improving when undecylenic acid was prescribed, although vitamin E was continued.

Seven patients were not helped by undecylenic acid. The subsequent administration of vitamin E while the undecylenic acid was continued did not help four of these patients to whom it was given. One of the four became worse.

Two patients preferred psoriasis to the undecylenic acid.

One patient said she had a heart attack after taking the acid for only a few days. This could not be confirmed.

Of the 17 patients with neurodermatitis, one had complete clearing after taking undecylenic acid, and the skin remained clear for nine months. Undecylenic acid therapy was begun again when the condition recurred, and at the time of this report improvement again was noted.

Eight of the patients had temporary improvement of pruritus and five of the eight had temporary improvement of the dermatitis. Of the latter five, one had to discontinue treatment when severe nausea and generalized pruritus developed. Another of these patients was helped by undecylenic acid only when it was given in conjunction with Pyribenzamine,® vitamin A and local treatment.

Four patients were not helped by the drug and one became worse. In one case, reported in detail elsewhere,[3] exudative dermatitis developed.

Three patients discontinued treatment because of severe nausea.

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A Diverting Medically Useful Life Hobby

Imitation, Self-Exploration and Self-Experimentation in the Practice of Medicine

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IN my early years in the practice of medicine it was almost daily impressed upon me that I was a poor clinical observer, as in inspecting areas I would miss some little but perhaps important point that a confrere would immediately pick up. My defect was strikingly brought home to me one morning in an operating room when, looking at the masked face of a physician whom I had come to know intimately, I noticed for the first time a peculiarity of his eyes that must have been of long standing.

Realizing that if I were to get any satisfaction out of my work I must improve myself in this respect, I cogitated a good deal as to how I could best go about it. At length the idea struck me that inasmuch as while looking at a masked face I had observed something which had long escaped me, perhaps I could do it by inspecting the faces of my patients section by section.

Hence, I mentally divided the face into the upper face, which included the eyes and forehead; the midface, which included the nose and cheek bones; and the lower face, which included the mouth and chin. While inspecting one section I would cover the other two. Then I would inspect the face as a whole; and finally, covering one side of the face, I would inspect the other side; and vice versa. It was not long before I realized that I was perceiving small details in all these areas that previously I had failed to note.

After quite a time I began to catch expressions and, later, expressions within expressions which formerly had eluded me. Once I caught an expression, I was usually able to sense its significance. If I saw one, the significance of which puzzled me, I would photograph it upon my memory, and when I was alone I would go to the mirror and endeavor to assume it, and I would persist in the attempt until I felt I had gotten it. Then I would realize what inner feeling in me would have called forth such an expression, and therefore the inner feeling that in all probability had induced it in the individual who had exhibited it.

Becoming intrigued by the results of this imitative method of diagnosis, I began to imitate the tone, placement, and tempo of speaking voices. Again, after considerable practice, I found I could appreciate a previously unappreciated gamut of inflection and speaking tone values that seemed to reflect degrees of desire, fear, anxiety, etc., that at the time activated the speaker. It was as though I had acquired a new set of visual and auditory scales which could distinguish a whole range of small differences in things to which my former coarser scales had given equality.

Further, having in mind the changes in figure, posture, and gait that habit and disease can and do produce, I commenced to copy them, with the hope that I might come to have a better understanding of their whys and wherefores. I also assumed as far as I could the idiosyncrasies and behavior reactions of my patients, with the aim of not only discerning their why and wherefore, but also of distinguishing between the put-on and the genuine ones, and of discovering whether the hidden key to a complex was consciously or unconsciously withheld.

In due time, induced by revealing experiences with patients, I extended these activities into the imaginative and experimental fields. Thus I would imagine I had a particular symptom or ailment that puzzled me, and then see if I could uncover anything in my past that might cast a light upon it; or that I had a patient's crippling impairment for which he had not been able to evolve a helpful compensatory adjustment; and then try through self-experimentation to unearth one for him.

I thus acquired an appealing many-sided life hobby, in which I could indulge with ever-increasing educational profit. The recital of a few of the numerous incidents in which it played a part will, I hope, show that its pursuit was also clinically useful.

IMITATION

As I was walking along a street I saw in the block beyond a man with Parkinsonism coming toward me. As he stepped off the sidewalk he teetered forward and broke into a festinating gait. He passed me on the run, and I turned to watch him further. He traversed more than half a block before he was able to bring himself to a halt. Then he executed a maneuver which was new to me and also new to the neurologists to whom I related the incident. He placed his arms behind his back with the back of each hand on the corresponding buttock, and bent at the hip joints so that the palms turned upward. He then walked on as steady as a church. Bending my body forward and stiffening my arms, I imitated him. As my palms turned upward, back went my buttocks, and back went my weight on my heels. Appreciative of the balance thus obtained, I hurried back after him. He had devised the trick for himself. I passed it on to other persons with Parkinsonism whom I later saw, not one of whom had been ingenious enough to evolve it.

A man said he had been told he had a stone in his left kidney, and this the roentgenogram confirmed. In the course of conversation he added that he had also had an attack of renal colic on the right side. As the radiographer had reported that there were no stone shadows on that side and as the findings were somewhat equivocal, I suggested that these pains might have been of gallstone origin. He thought not, as the assumption of a like body position had given him considerable relief in both instances.

I asked him to show me the relieving position. He got down on his hands and knees and inclined his body. I did the same, imitating his every movement. The posture I had assumed seemed more calculated to afford some relief in pains of kidney than in those of gallbladder origin. A consequent rescrutiny of the films revealed three small faint shadows lying within and obscured by a rib shadow. An x-ray recheck with a shift in the tube indicated that they were, as they turned out to be, the shadows of three small kidney stones.

SELF-EXPLORATION

I was asked to see in consultation a man in the prime of life with pneumonic patches in both lungs. He was blue, distended, and dyspneic, but notwithstanding the distress consequent upon shortness of breath, he resented the time I spent in examining his chest and other structures, and kept on exclaiming that there was a man in the forepart of his head who was hammering him to death, and that the hammer blows would soon kill him if he were not relieved of them.

As I watched him hold his head and moan as he coughed, it came to mind that some years before I had had a felon which until free drainage was provided, had given rise to severe throbbing pains to which the term hammer blows could well be applied. This patient, then, had what was equivalent to a felon in the forepart of his head. His movements and reflexes were not impaired. It must be outside his cranial cavity. His upper or posterior sinuses must be chock-a-block with matter, the tension of which was being increased with the heart beats and when he coughed.

A nose and throat specialist was called in. He found nothing to support the suggested explanation of the hammer pains. Nevertheless, and although he said the nasal mucosa was not swollen, he consented to shrink it as completely as possible, in the hope that if the surmise were correct, he might thus bring about some drainage of the pent-up matter. His persistence in this endeavor was rewarded for, as he was on the point of withdrawing the speculum, some matter began to ooze down. He continued with the applications; more and more drainage occurred. Before the specialist left, the hammer pains had lessened in intensity and, after a few such daily treatments, ceased. In due time the pneumonic patches resolved.

A patient had been operated upon abdominally and a postoperative ileus had developed. A small tube had been passed through the mouth into the stomach, and continuous gastric drainage established. In a moment of distress the patient pulled out the tube and refused to have it repassed, either through the mouth or through the nose. Distention increased and the patient became quite disoriented. Although he was informed of what would surely happen if gastric drainage were not reestablished, he was adamantine in his refusal of it. The question arose, did I know of any way by which, if I were afflicted as he was and beyond the reach of reason, I might be induced to take the tube? Yes, perhaps I could be shamed into doing it. And if I could be, so probably could he. With only this thought in mind, and as the patient with tense jaw muscles glowered at me, I entered a tube into the more open of my nasal passages and pushed it on until it reached the stomach. With it in position I sat by his bedside until his jaw muscles had relaxed. Then I told him that if he were the man I took him to be, he would now permit the passage of the tube. This he soon did. Gastric drainage was reestablished. The distention gradually abated, his mind cleared, and he rapidly became convalescent.

SELF-EXPERIMENTATION

Some forty years ago as I was walking up a steep incline, I was suddenly seized with an agonizing constricting upper chest pain. My chest became locked, and I broke out in a cold sweat. Feeling faint, I leaned against a neighboring wall. After what seemed quite a while my chest relaxed and I was able to breathe normally. I remained leaning against the wall until the pain had somewhat abated. Then I slowly retraced my steps and went home. From that time on, I experienced a similar but much lesser pain whenever I walked up an incline, and I would have to stop at intervals until it subsided. To my surprise, however, I had no pain on walking up flights of stairs. While musing on this seeming incongruity, I learned of a woman who experienced a similar pain on walking up inclines, who had consulted a physician who had given particular attention to cardiovascular problems. He had walked with her up several flights of stairs. As she experienced no pain, he advised her that her complaint was of a functional nature; and I am free to confess that I would have told her the same, had it not been for my own experience. The woman, however, died within a week or so in a typical anginal attack.

From that time on, I asked my patients who had anginal symptoms regarding their experience. Quite a number informed me that although they had pain on walking up inclines, they could walk up stairs without chest distress. Intrigued, I experimentally walked slowly up many inclines and many flights of stairs. I found my manner of progression was considerably different in the two cases. In walking up inclines I advanced each leg alternately from the hip, cocked the toe of the advancing leg, and more or less stiffened the corresponding knee joint. In walking up stairs I kept all my joints slack and raised the knees and heels, the consequent leg action being

somewhat of a pumping nature. By using this method of progression when walking up inclines, I found I could go up many of them without having to stop on the way because of chest pain. I also discovered that by keeping all my joints slack and thereby preventing the muscles which passed over them from becoming tense, I could indulge to a degree, without distress, in activities otherwise barred to me. As a corollary, I found that in trying to elicit a refractory patellar reflex in a patient, the instruction to let the corresponding knee and ankle joints go completely slack, thus slackening both the corresponding thigh and calf muscles, was much more serviceable than the use of the Jandrassik or any other reinforcing maneuver.

A woman suffering from coccydynia had so much pain on attempting to rise from a chair that she had to be lifted out. Through self-experimentation the following method of rising was devised for her: She was instructed to bend forward, to place her toe regions together and to separate widely her heels—a foot position calculated to prevent the perineal muscles from contracting and tugging on the coccyx—to come off the chair so postured, then to straighten herself. She rose without pain, glad, she said, to be relieved of being such a nuisance.

In the following case which nonplussed me, the patient himself through self-experimentation confirmed a suggested diagnosis and the efficacy of the suggested treatment.

He, a urologist, complained that he was awakened every night by a most nauseating taste odor, and that he had to get up and wash out his mouth before he could go to sleep again. I was unable to determine the cause or the origin of the odor, as had been a number of physicians and specialists whom he had consulted. Two years later he informed me that he had read an article by Boas in which Boas advanced that such a symptom was apt to be due to the decomposition of debris that had collected on the back of the posterior part of the tongue and in the trenches of the circumvallate papillae. The urologist had attached a piece of gauze to a stout thread, put the gauze far back in his mouth, fixed the thread on the outside in such a way that the gauze could not travel backward, then had gone to sleep. He was awakened as usual. Pulling out the gauze, he found it reeked of the offensive odor; and he said that anaerobic cultures made from the gauze gave off this odor. Repeated swabbing with pledgets of absorbent cotton soaked with peroxide of hydrogen, as advocated by Boas, relieved the condition. This story caused me to purchase some Japanese tongue scrapers for use in suggestive cases.

It was some years before one came my way. The scraping from the back of the patient's tongue revealed the offensive odor, and applications of peroxide of hydrogen rid him of it.

The following case was one of many in which these hobby activities permitted of discernments which were immediately regarded by those concerned as having been of telepathic or extrasensorial origin.

The wife of a visiting Englishman was referred to me by his business associate. She was in late middle life and, apart from some occasional urinary leakage, was in excellent physical condition. In finishing my talk with her, I asked her if she minded telling me why she, who had had such a happy life, was then so miserable. A trifle haughtily she replied that no physician whom she had previously consulted had ever asked her such a personal question.

"But is it not so?"

"As a matter of fact it is."

"If you care to confide in me, I may be able to help you."

"Well, since you have read my mind, I will," she rejoined, and continued, "My husband and I were for years not only man and wife but also good pals. Wherever he went, on business, sporting, or sightseeing trips, I went, and I was always ready at a moment's notice to accompany him. But since I have been bothered by this leakage, I have to make many changes, and I am frequently keeping him waiting. Not appreciating my difficulty, he becomes annoyed. I become agitated, more leakage occurs, and further delay ensues; and I am afraid our happy comradeship is a thing of the past."

I asked her to give me a little time to think over her problem.

That day on entering the luncheon room in a club, I saw, sitting with the man who had sent the patient to me, an Englishman who looked as though he had never been ill a day in his life. I went over to their table ostensibly to greet my friend. On seeing me he remarked to the Englishman, "This is the doctor to whom I referred your wife." The Englishman said that his wife had spoken of me, and then added, "Nothing wrong with her, of course." A trifle nettled by his seeming indifference to her annoying difficulty, I rejoined, "Nothing of serious import, but something that makes a woman of her type miserable unless she can give it all kinds of attention."

"What did you say?" he ejaculated. I repeated my remark, and I could see that I had somewhat jarred him.

A few days later his wife came to say goodbye. As she approached, I remarked, "I am glad you are happy again."

"So you know. I told my husband you would," she replied, and continued, "but let me tell you what happened. My husband came back from lunching at your club and said that he had met you, and had been made to understand how inconsiderate he had been, and that he wanted to assure me that in the future I would have no cause to complain of him in that respect and that on our return I should consult the specialist whose name you had given me."

The explanation: In inspecting her face in the manner outlined, I had noted that its set and lines indicated that she had had a happy life, but that her eyes, which betokened her then state of mind, were full of misery. When she returned they gleamed with happiness.

Although I retired from the practice of medicine some years ago, I still keep up my hobby activities, and by reason of them scarcely a week passes without my being able to make some little but much appreciated suggestion to an ambulatory ailing one. To illustrate with a few recent instances:

A man with sacrolumbar difficulty said his game of golf was being ruined by reason of the restraining harness he had to wear while playing. He much appreciated being told that if he would stand with his feet and knees much closer together, he could probably play without the support, as he could then rotate without any movement occurring in his sacrolumbar region. This he found he could do, and by doing it achieved, I may add, longer and straighter shots.

A man with a heavy cast on his right leg was laboriously advancing this leg as he walked. He appreciated the suggestion that he carry the corresponding shoulder forward and pull the encased leg after him.

A former patient, recovering from an attack of gout in the metatarsal region, flinched at every step. The suggestion that he hold his shoulders back and walk on his heels enabled him to walk without distress.

A telephone girl was as hoarse as hoarse can be. Compressing her lower chest laterally, I informed her she should so firm it while using the phone, as she would then hold her voice up and carry it forward, thus taking quite a little strain off the laryngeal tissues. Next morning she told me she had not thought such a simple thing could have helped her so much.

A woman with flabby throat tissues had been advised to gargle with an astringent solution, but she had never been able to learn how to gargle. "Stiffen your tongue," she was told. She could then gargle satisfactorily.

Elementary as these simple hints may seem, they were both new and helpful to those to whom they were given.

In concluding I would say to any unobserving young doctor that I believe he, too, would reap, as I have reaped, both pleasure and profit from persistently indulging in the activities I have outlined.

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Roentgen Diagnosis of Intra-Abdominal Hernia

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SUMMARY

The primary radiologic evidence of intra-abdominal hernia is disturbance of normal small intestine arrangement. Loops of intestine are crowded together as if in a bag, giving the appearance of clumping or sacculation. Dilatation and loss of mobility may occur with varying degrees of stasis. Displacement of viscera or pressure deformity may be observed.

Studies of the small bowel are necessary to demonstrate these conditions and must be made with the patient in the erect as well as the horizontal position. Repeated studies may be required, and the best time to make them is during an acute attack, as the hernia may be temporarily reduced during a remission.

The clinical symptoms are sufficiently characteristic to suggest the diagnosis in most cases. The usual history is of repeated attacks of abdominal pain or discomfort, usually accompanied by distention, varying in periodicity and intensity, with or without nausea or vomiting, and not accompanied by laboratory data or clinical signs indicative of inflammatory disease.

Similar or identical clinical and roentgenologic evidence may be produced by torsion of the small bowel or by peritoneal adhesions.

The hernia or torsion may reduce spontaneously before or at the time of operation. Therefore, a careful search for abnormal fossae, mesenteric defects or adhesive bands is necessary if herniation or torsion is not found.

INTRA-ABDOMINAL or internal hernia was first described by Hensing[6] in 1742 and was later established as a clinical entity by Treitz in 1857. Moynihan[11] in 1899 described nine possible fossae in the duodenojejunal region as potential sites for small bowel herniation. Kummer[7] in 1921 reported the first case diagnosed roentgenologically before operation, and since then other case reports by Case,[1] Exner,[3] McCarty and Present,[8] Reeves, Moran and Jones[12] and Taylor[14] have appeared in the literature.

Intra-abdominal hernias and torsion of loops of small bowel may be similar in the symptoms they cause and in roentgenographic appearance. They need to be kept in mind, for clinician and radiologist can easily overlook them. Differentiation one from another is less important, for both require surgical exploration, and the surgeon in every case has to search carefully both for pockets and for adhesive bands. A hernia may have escaped and the torsion may have uncoiled, so he must also search for telltale residual evidence of obstructions no longer present. Cases 1 and 6 (reported herein) are examples of hernia and torsion spontaneously reduced before or at the beginning of operation. In Case 4 the roentgen appearance of both situations was observed, first with bowel in the sac and then with hernia spontaneously reduced and normal bowel pattern restored.

Internal hernias are not common, but the actual incidence is not known. Watson[12] found three in 1,600 autopsies, Mitchell[7] one aperture in the mesentery, a potential hernia, in 400. Among 467 reported cases, Hausmann and Morton[4] found 52 transmesenteric (14 ileocecal and 38 ileal or jejunal mesenteric) hernias. Such hernias are the least common cause of acute intestinal obstruction. McIver[6] reported only three (0.9 per cent) in a series of 335 cases.

Most paraduodenal hernias have an underlying congenital developmental variation as a predisposing factor. Congenital anomalies, injury and infection are discussed by Cutler and Scott[2] as possible causes for transmesenteric hernias. No doubt any one of these factors may play a part in any particular case.

Presumably many go undetected. To find them a physician must be alert to symptoms and ready to order special roentgen studies. None of the eight diagnoses herein reported was made on routine gastrointestinal examination.

The histories in the cases presented, which include three cases of small bowel torsion, are remarkably similar except for duration (the longest extended over a period of some 30 years, the shortest, three months):

(a) All the patients complained of intermittent epigastric discomfort or pain of long standing, difficult to localize subjectively. Appendicitis or duodenal ulcer had been suspected in some cases.

(b) Most of the patients had intermittent gastric distention, often aggravated by changes in position. In two cases there was epigastric tympany. In one case the patient noted that upper abdominal discomfort and pressure increased when swimming.

(c) Nausea and vomiting were unusual.

(d) Some patients had constipation in some degree, increased during attacks.

(e) In most cases, symptoms were episodic, lasting a few hours to several months and with varying periods of remission.

Presented before the Section on Radiology at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

(f) In all cases the nutrition was good and the results of laboratory studies were normal. Some of the patients were considered psychoneurotic.

Normally, the small bowel fills the lower half of the anterior abdominal cavity uniformly, extending laterally into each flank where it is bounded by the colon, then downward into the true pelvis, and posteriorly to or (rarely, when standing) beyond the anterior margin of the spine (Figure 1).

In internal hernia a length of small bowel is found "clumped as if confined in a sac" (Golden[4]). This is usually more apparent when the patient is erect. These loops of bowel, which may be distended, usually cannot be separated, but can sometimes be moved in toto by external pressure. This sacculation may be large or small, depending upon the length of included bowel, and may vary in location depending upon the site of herniation (the site may be impossible to localize but may be suspected from the location of the loops of clumped bowel). The one reasonably reliable sign is found in right paraduodenal herniation, where the duodenum extends directly to the right rather than following its usual curve to the left. Displacement or pressure deformity of neighboring viscera may occur. The speed of travel of the barium meal may be retarded; but this is of little diagnostic value, unless protracted, because of great individual variation in normal subjects.

In addition to torsion, a congenitally short mesentery, congenital malrotation of the small bowel and possibly masses of small bowel matted together by inflammatory adhesions (Case 8) may produce confusing findings. A similar appearance might be produced by a short mesentery which could prevent the descent of the small bowel into the pelvis, but not into the flanks. This has not occurred in the authors' experience. Studies with the patient in the erect position should eliminate this possibility of error in diagnosis.

Although congenital nonrotation of the small bowel could give rise to confusion, this condition should be ruled out easily if the colon is visualized during the examination and found to be in a normal position.

Serial studies of the small bowel are practically always necessary. None of the cases herein reported was diagnosed during routine gastrointestinal examination. The usual procedure is as follows:

1. One hour before initial fluoroscopic examination, 4 ounces of liquid barium mixture is given.

2. At the time of fluoroscopy 2 to 4 ounces of liquid barium mixture is given, the amount depending upon the speed of movement of the first meal.

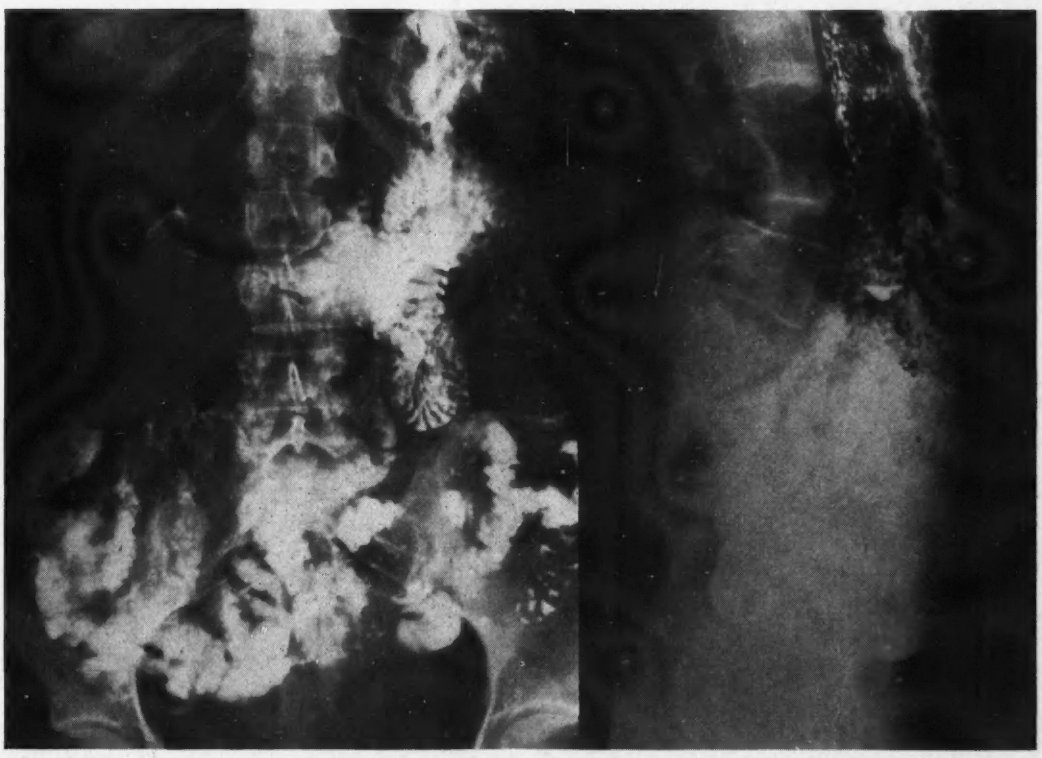

Figure 1.—The small intestine, viewed in erect lateral and anteroposterior projections, occupies approximately the lower half of the abdomen, practically all anterior to the spine; and, except for the duodenum, only occasional loops extend behind its anterior margin. The ileum lies well down in the pelvis, extending posteriorly, following the curvature of the sacrum.

It is desirable to fill a continuous long segment of small bowel with barium; this is more easily accomplished by giving a fractional meal.

3. After the first observation, the descent of the meal may be accelerated by giving ice water or isotonic salt solution, as described by Weintraub and Williams,[16] thus reducing the time necessary for the barium to reach the cecum to three hours or less, rather than the usual four to six hours.

The patient should be studied fluoroscopically anteroposteriorly and laterally in both erect and horizontal positions. The findings are usually more apparent with the patient erect, and may be completely masked in a horizontal position. Lateral studies in the horizontal position are of practically no value as the small intestine usually gravitates into the dependent part of the abdomen, effectively masking all significant findings. In some instances, horizontal anteroposterior studies are more informative. Anteroposterior and lateral film studies, usually with the patient erect, are made as indicated or desired at any interval.

The small bowel enema, described by Shatski,[13] permits more detailed continuous study in a shorter time. Filling, from the duodenum to the cecum, usually requires from 20 to 30 minutes.

When the preoperative diagnosis has been made, the surgeon must look for sites of herniation or adhesive bands, and in the event that neither is found, he must make a most painstaking search for openings in the mesentery or structural abnormalities which would allow herniation. He must bear in mind that the hernia or torsion may reduce spontaneously during the interval between the diagnosis and operation (as it did in Case 1, and as may have occurred in one other case in which no cause could be found for the symptoms or for abnormality observed in x-ray studies). The possibility that the hernia might be reduced inadvertently during exploration must also be considered.

CASE REPORTS

CASE 1: A 22-year-old male complained of periodic attacks at irregular intervals for years of cramping epigastric pain or discomfort and distention, varying in severity, sometimes accompanied by nausea. Vomiting occurred only a few times during the more severe attacks. Constipation usually occurred during an attack, and relief was followed by increased bowel movements, but never diarrhea.

Never, so far as he knew, had the patient had abnormal temperature, and it was only this and normal blood cell counts that had prevented appendectomy on two separate occasions. Upon physical examination, only mild mid-abdominal distention and tympany were noted during an attack, and when symptoms subsided no abnormality was noted. Serial roentgen studies of the small bowel revealed clumping of multiple loops of jejunum in the mid-abdomen, without distention or delay in descent of the meal (Figure 2).

Operation was carried out six weeks following roentgen diagnosis of internal hernia. Shortly before operation there was one severe attack which lasted but a few hours and terminated abruptly. Herniation was not found at operation, but there were many recent petechial hemorrhages over the red and injected surface of the duodenum and upper jejunum, and around the margins of the foramen of Winslow, which was closed by fresh adhesions. The surgeon believed that this evidence warranted the conclusion that a herniation through the foramen had recently reduced spontaneously.

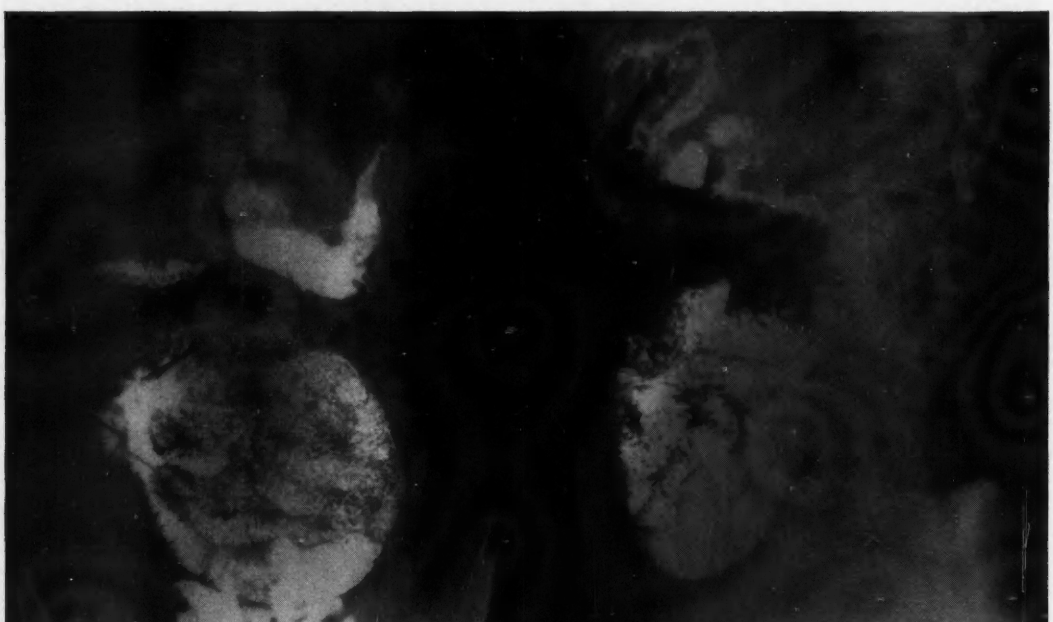

Figure 2.—Hernia through the foramen of Winslow. The loops of small bowel are clumped in the center of the abdomen as if within an invisible sac. The loops show slight distention. The barium moved through the gastrointestinal tract normally.

The patient was completely relieved of symptoms, and when x-ray examination was made later, the small bowel distribution within the abdomen was normal.

* * *

CASE 2: A 34-year-old housewife complained of recurrent pain in the right side of the abdomen for four or five weeks, with increasing nausea and vomiting. The pain, cramping and intermittent, lasted for periods of from a few hours to days. The nausea increased with the duration of the attacks, which were not related to food, bowel activity or any other apparent cause. There was no loss of weight or disturbance in bowel habits. On examination, tympany and tenderness high in the left hypochondrium were noted. No masses were palpable.

Roentgen findings were sacculation of loops of small bowel in the mid-abdomen. The diagnosis was internal hernia (Figure 3).

At operation, "several loops of jejunum were found protruding through an opening in the mesentery high in the left near the midline." The involved loops showed thickening of the walls and gaseous distention, with darkened constricted areas at the proximal and distal ends. The herniated bowel was delivered by traction, with no appreciable difficulty. The rent in the mesentery was sutured to prevent future herniation. The patient when observed three months later had no symptoms or abdominal tenderness.

* * *

CASE 3: The patient, a laborer 50 years of age, complained principally of pain and discomfort in the left upper quadrant over a period of several years, although he was able to do heavy work during the entire period with no loss of body weight. There were no previous abdominal operations. Disease of the left kidney was suspected, but results of urological studies were normal.

X-ray studies showed several loops of small bowel in the left upper quadrant which maintained a constant configuration of clumping with the patient in both the supine and erect positions. At one examination, upright lateral views showed changes in the position of the loops although they retained the appearance of envelopment. A diagnosis of paraduodenal hernia was made (Figure 4).

Symptomatic treatment with supportive belts did not relieve the discomfort. Operation one year later revealed a left paraduodenal hernia containing about eight feet of slightly distended, gas-filled, injected jejunum. A large urachal stalk surrounded by a thick band of fat was also demonstrated. This structure separated the lower abdominal cavity into the right and left compartments, but the lower small bowel was free. When x-ray examination was carried out three months later, the small bowel pattern was normal and the patient was asymptomatic.

* * *

CASE 4: A 26-year-old woman had had recurrent attacks of dull aching pain across the mid-abdomen, not cramp-like in nature, for nearly a year. The frequency of attacks had increased during the past six months. The patient had had no nausea, vomiting or constipation. Epigastric pain, which came on about two to three hours after meals and was worse in the early evening, had begun five days previously. There was no flatulence, eructation or heartburn. Upon examination, only mild tenderness in the epigastrium was noted. An active duodenal ulcer was observed roentgenographically. The duodenum extended directly to the right from the cap, and loops of jejunum were drawn upward and to the right, forming a clump of small bowel in the region of the gallbladder (Figure 5).

Operation has not been performed, but the history and characteristic roentgen findings warranted diagnosis of right

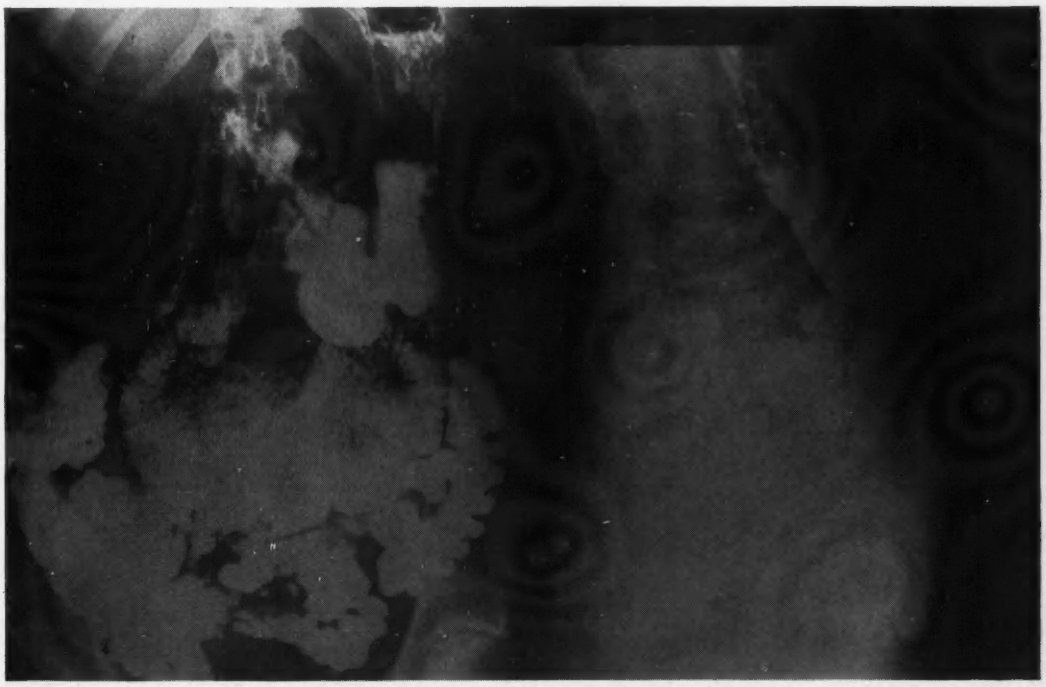

Figure 3.—Transmesenteric hernia. The duodenum and upper jejunum follow a normal course. The greater part of the jejunum is clumped in the central part of the abdomen, and extends far behind the anterior margin of the spine. The lateral view illustrates how the barium in the colon obscures the lower small bowel.

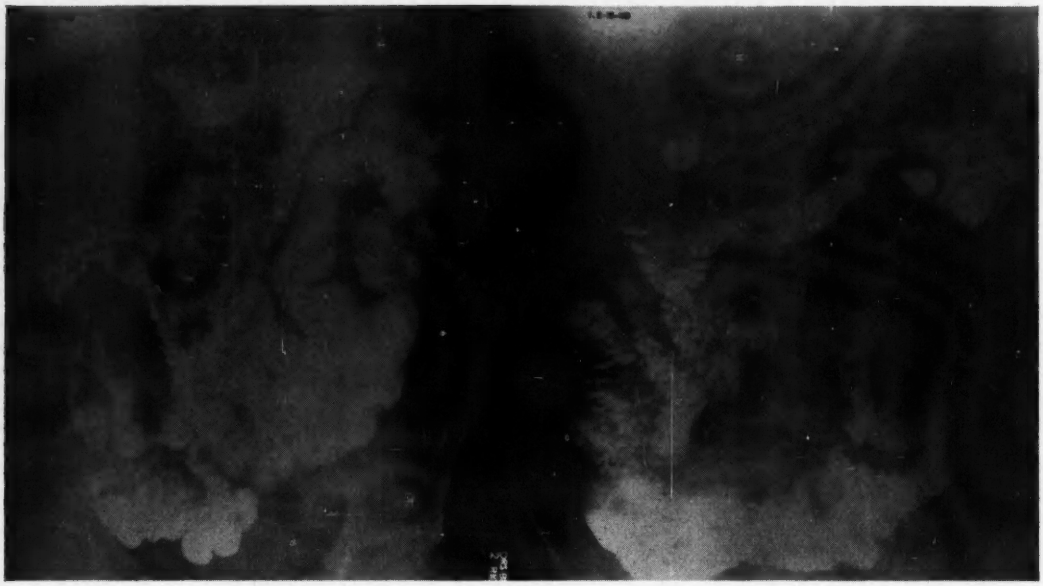

Figure 4.—Left paraduodenal hernia. The film at the left shows clumping of jejunum in left side of abdomen. Loops of ileum in normal position. The film at the right, taken five days later, shows many loops of jejunum in the right mid-abdomen, with few remaining in the left, and with loss of appearance of sacculation. This illustrates the possibility of spontaneous reduction of a hernia.

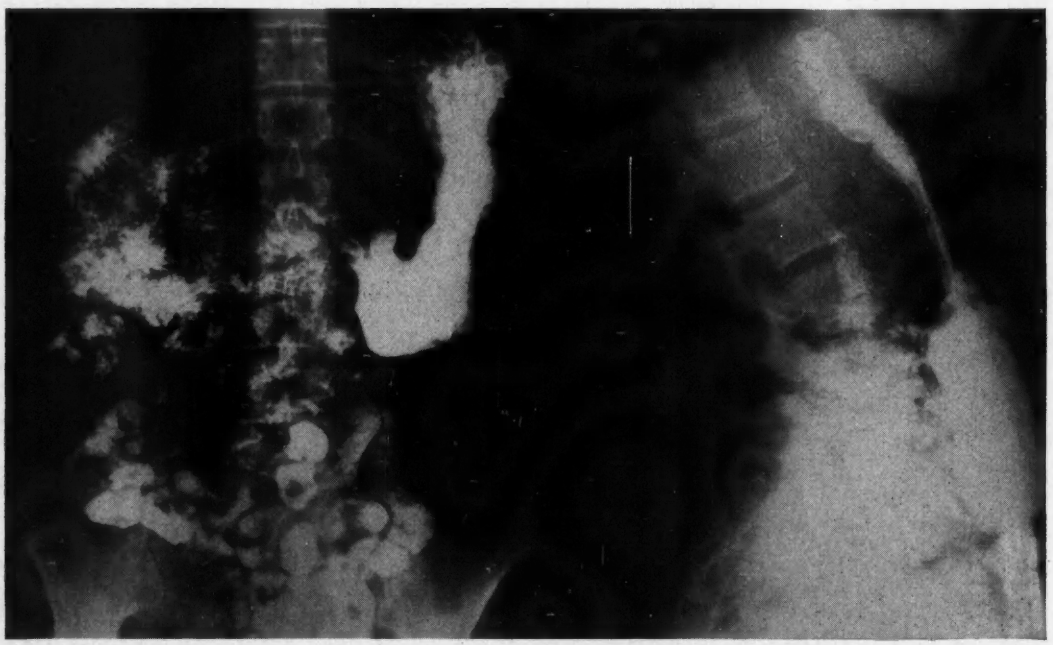

Figure 5.—Right paraduodenal hernia. The duodenum courses directly to the right from the cap. Most of the jejunum lies in the right side of the abdomen, the ileum in a fairly normal position. In the lateral view, many loops are seen to lie behind the anterior surface of the spine. (The anteroposterior view was taken with the patient in a supine position.)

paraduodenal hernia. The duodenal ulcer was no doubt responsible for the onset of additional symptoms five days before examination.

* * *

CASE 5: A 35-year-old housewife had occasional abdominal cramps and gnawing pains, relieved by food. The onset followed an operation for tubal pregnancy 15 or 16 years previously. The patient had no nausea or intestinal bleeding. The symptoms were suggestive of peptic ulcer, but were relieved only temporarily by treatment. There were no significant physical findings, except generalized tenderness in the upper abdomen with slight distention and tympany. Slight hypochromic anemia was noted but other results of laboratory studies were normal.

In repeated x-ray studies the characteristic appearance of envelopment of a large portion of the small intestine in the left upper quadrant was observed. A diagnosis of internal hernia was made. Upon surgical exploration, approximately the upper two-thirds of the small bowel was found to be contained in a pseudo-sac formed by adhesion of the greater omentum to the upper part of the old midline incision, with the skirt of the omentum pulled upward and rotated counterclockwise and to the left. This was corrected. There were no anomalies other than congenital shortening of the lesser omentum. The patient was asymptomatic during a follow-up period of 18 months.

* * *

CASE 6: A 37-year-old, healthy-appearing woman complained of recurrent attacks of upper abdominal pain, gaseous distention and vague indigestion dating from an accident ten years previously followed by a hysterectomy which apparently was necessitated by the injury. Past history was otherwise not significant, and results of laboratory studies were normal.

The only abnormality noted in physical examination was poorly localized tenderness in the mid-abdomen, which was soft.

A clumping of loops of small bowel in the left mid-abdomen was observed in roentgen studies (Figure 6). Motility was delayed, but no barium remained in the small intestine after 24 hours. A preoperative diagnosis of partial obstruction of the jejunum by an internal abdominal hernia was made.

At operation the surgeon found, free in the left upper quadrant, a thickened edematous loop of jejunum corresponding to the loop noted during the x-ray examination. Two sharply demarcated lines of constriction at the proximal and distal ends of the loop indicated recent incarceration. There was a thick adhesion between the anterior abdominal wall and the left side of the omentum. This was removed. Both the surgeon and the consulting pathologist believed, from its appearance, that the involved loop of jejunum had escaped from torsion around the adhesion after the administration of the anesthetic. The patient was free of symptoms for an eight-month follow-up period.

* * *

CASE 7: A 44-year-old male complained of intermittent attacks of pain in the right side of the abdomen for three to four years. The attacks were initiated by momentary stabbing pain in the right upper abdomen without radiation, followed by dull aching over a much larger area under the right costal margin and just beneath the right twelfth rib posteriorly. Such spells might last a few hours or for two or three days. The pain came on at various times of day, especially after hard work, and would sometimes waken the

Figure 6.—Torsion of small bowel around an adhesive band. The distended loops of small bowel in the left abdomen are clumped, producing an appearance of sacculation. Barium was retained within this area over six hours.

patient at night. There was loss of appetite, but no nausea, fever, chills, change in bowel habits, indigestion, urinary symptoms or aggravation by coughing or sneezing.

In two x-ray studies of the bowel, dilated, clumped loops of jejunum in the left upper quadrant were observed. The conclusion after each examination was internal hernia.

At operation, two weeks after the last x-ray examination, a moderate-sized adhesive band was observed between the left lateral abdominal wall and transverse mesocolon. Torsion of the bowel around it could easily have taken place. The band was freed. No site for herniation was found. On x-ray examination following discharge from the hospital, the small bowel pattern was found to be normal. The patient was symptom-free for a two-year follow-up period.

Cases 5, 6 and 7 illustrate two important factors in the diagnosis and surgical correction of such conditions: First, the similarity of x-ray findings in torsion of the small bowel to those of internal hernia produced by congenital defects; second, the possibility of spontaneous reduction of the herniation or torsion before or during anesthesia.

CASE 8: A 43-year-old male complained of abdominal pain, of three months' duration, to the right of the midline without radiation. At the onset it was burning in nature, but for the previous six weeks, had been "a continuous uncomfortable feeling." It was aggravated by getting up from a sitting position and by most foods. Slight relief was obtained from soda or milk. Upon physical examination slight voluntary guarding of the abdomen was noted. The temperature was 101° F. Results of routine laboratory studies were normal. Reaction to a tuberculin skin test was positive at dilution of 1:100,000. No abnormality was observed in an x-ray film of the chest.

In an x-ray examination of the abdomen, clumping of the small bowel in the mid-abdomen similar to that seen in Case 1 (Figure 2) was observed. Motility was normal. The preoperative diagnosis was intra-abdominal hernia.

Upon exploratory laparotomy it was noted that there were extensive adhesions of the omentum to the parietal peritoneum, which was inflamed and studded with multiple small nodules. A large amount of cloudy thin fluid was present. The diagnosis of tuberculous peritonitis was verified by omental biopsy. The surgeon reported that because of disease and extensive adhesions, he was unable to explore the abdomen completely, and could neither affirm nor gainsay the presence of hernia. (This case is reported, even though not confirmed, to illustrate another possibility of differential diagnosis.)

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Discussion by MARTIN W. DEBENHAM, M.D., *San Francisco*

Dr. Williams has directed attention to the solution of a problem which is often more baffling to the surgeon or internist than to the radiologist.

Acute and complete obstructions are usually clear-cut, and demand immediate surgical attention. But the incomplete and recurring obstructions with the vague clinical symptoms are most difficult to evaluate. The absence of abdominal scar often leads one to overlook the possibility of mechanical obstruction.

The value of the "flat plate" or "scout film" cannot be overemphasized. It often gives significant leads to the diagnosis, even by the surgeon. On an emergency surgical service many of the patients are first observed in the middle of the night, and it is of inestimable value to have this aid at hand. At operation it is the duty of the surgeon to be familiar with all of the possibilities for internal herniation, because, as Dr. Williams has said, these obstructions may be spontaneously relieved at any time yet the hernia sac remain present. If it is not found and repaired, the obstruction will almost certainly recur.

The usual sites of congenital anomalies, especially the paraduodenal fossae, should be carefully inspected. A thorough search of the mesenteries and the omenta to the pelvic floor must be made if necessary to find the defect.

The Problem of Prognosis in Pancreatitis

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SUMMARY

Prognosis in pancreatitis is at best difficult and uncertain. Certain complicating factors, however, occur in statistically established percentages of chronic cases: Calcification in 35 to 50 per cent, diabetes (usually mild) in 15 to 25 per cent, and cysts, pseudo-cysts or abscesses in 10 to 15 per cent. Steatorrhea (which may cause severe malnutrition) and diabetes are more common in cases in which calcification develops.

THE prognosis of pancreatitis presents a problem which is but partially solved. A sound prognosis should foretell the immediate outlook for life, the course of the disease, and the degree of recovery to be expected. What, then, is the outlook for life in an initial attack of pancreatitis? How often is acute pancreatitis an acute self-limited disease? How often is it merely an introduction to the more dolorous syndrome of chronic relapsing pancreatitis? Because these prophecies could not be made, help was sought from a review of the patients with pancreatitis who had been admitted to the Southern Pacific General Hospital in the years 1927 to 1946. Of the 42 cases, 27, proved by laparotomy or autopsy, could be followed for from three to twenty-two years. Of the 27 patients, 11 died, all during the first severe attack. This represents a mortality rate of 40 per cent, which is considerably lower than has been reported in some other series. Of the 16 patients who lived, seven now have relapsing pancreatitis. The histories and clinicopathological pictures of the 11 patients who died were in no way strikingly different than of the 16 who lived. Those who died were not subjected to more hazardous operative procedures. In general the treatment of the patients who died was not essentially different from that of those who recovered. If, then, the chance for recovery from an initial attack of acute pancreatitis is 60 per cent, why, in the two rather similar cases which follow, did one patient die and the other recover?

Table 1.—*Analysis of 11 Cases of Pancreatitis in Which Death Occurred*

	Type of Disease	
	Acute	Relapsing
Cases, initial attack	27	7
Deaths	11	0
Exploratory laparotomy	4	4
Cholecystotostomy	2	3
No operation	5	0
Mortality	40 per cent	0

Table 2.—*Analysis of 16 Cases in Which Patients Lived*

	Asymptomatic	Recurrent Symptoms
Cases	9	7
Followed	4 to 22 years	3 to 13 years
Cholecystostomy	3	3
Exploratory laparotomy	6	4
Gallbladder disease	5	3

CASE REPORTS

Case 1: A 51-year-old male was admitted to the hospital complaining of severe upper abdominal pain, nausea, and persistent vomiting of one day's duration. Upon laparotomy free fluid in the abdominal cavity and disseminated fat necroses were noted. The pancreas was considerably distended and hemorrhagic. The lesser sac was drained. The patient died on the eighth postoperative day. The diagnosis following autopsy was: "Acute hemorrhagic pancreatitis. Extensive fat necrosis."

Case 2: A 40-year-old male entered the hospital with complaint of acute onset of excruciating upper abdominal pain and persistent nausea. Laparotomy was done. When the peritoneum was opened a quantity of blood fluid escaped. There were multiple fat necroses throughout the omentum and the lesser sac. The pancreas was enlarged, firm, and hemorrhagic. The convalescence was rather stormy. The patient was discharged as "well" on the 32nd day. He remained asymptomatic for 11 years, at which time he reentered the hospital with uremia and died. At autopsy the pancreas was found to contain a moderately large cyst.

Why one patient died and the other recovered is not satisfactorily explained. Was it just a different manifestation of the severity of the same disease? Can the resistance to the disease in apparently previously healthy individuals in approximately the same age group vary so greatly?

Of the 16 living patients, nine have remained asymptomatic for from four to twenty-two years following the initial attack. Seven have had recurrent symptoms over a period of three to thirteen years. The incidence of gallbladder disease in the two groups was almost the same, as was the palliative method employed in the treatment of it. In a series of 27 cases from the Mayo Clinic,[3] nine patients had associated biliary tract diseases. Cholecystectomy was done and was followed by prolonged drainage of the common duct. Four of the patients have remained asymptomatic and five have recurrent symptoms. The results in these few cases do not differ very much from those in the present series—in which cholecystostomy without

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prolonged drainage was done. The difficulty of formulating an accurate prognosis in seemingly similar forms of the disease is illustrated by two cases in the present series.

CASE REPORTS

CASE 3: A 48-year-old male entered the hospital with acute upper abdominal pain and rigidity. For several years he had had digestive upsets, usually brought on by eating fatty foods. Laparotomy was done. The gallbladder was thickened and contained stones. The head of the pancreas was enlarged and edematous. Fat necroses were found throughout the omentum. Cholecystostomy was done. The patient left the hospital on the 32nd day. He has been free of symptoms for 15 years.

CASE 4: In 1946, a 54-year-old male was admitted with complaint of indigestion and recurring bouts of severe pain in the right upper quadrant of the abdomen. Previously cholecystectomy had been done elsewhere, without relief. Laparotomy was done. There was a quantity of brownish free fluid in the peritoneal cavity. The pancreas was enlarged and edematous. Areas of induration and areas of necrosis were encountered. The patient was dismissed on the 27th day. During the past three years he has continued to have trouble and has been readmitted twice with signs and symptoms typical of chronic relapsing pancreatitis.

Although the proposition is questionable, it seems likely that pancreatitis precedes the biliary tract involvement in many cases. If, in some instances, the reverse is true, are these the cases in which the response is satisfactory following correction of the biliary tract disease?

In general the laboratory findings, unless dramatic, are not of great help in formulating a prognosis.

Lacking as the refinements of prognosis in this disease may be, there are some stable prognostic guides.

Calcification may be demonstrated in 35 per cent to 50 per cent of chronic cases at some time during the course of the disease.[5, 6, 8, 9] The extent of the calcification does not necessarily parallel the severity of the disease. There may be extensive calcification without evidence of disturbance of pancreatic function. It is estimated that in 10 per cent of the cases of pancreatic calcification there are no symptoms ascribable to the calcification. However, steatorrhea and diabetes are more common in cases in which calcification is present. Low serum calcium levels may be encountered occasionally. If the level drops below 7 mg. per 100 cc., usually the patient dies.

Diabetes eventually develops in 15 to 25 per cent of patients who have the chronic relapsing type of the disease. It is usually of a mild form. It has been stated that approximately 90 per cent of the islet tissue of the pancreas may be destroyed before diabetes becomes apparent.

Persistent steatorrhea may cause severe states of malnutrition. At times the prognosis is improved when large doses of pancreatin or fresh beef pancreas are given.

The ten to 15 per cent of patients in whom cysts,[7] pseudocysts, or abscesses develop should be carefully observed during attacks. Fever, leukocytosis, and pronounced acceleration of the sedimentation rate may indicate extensive pancreatic necrosis or spreading abscess formation. Unfortunately the surgical treatment is hazardous. Most pancreatic fistulae follow operations on cysts. Partial pancreatectomy offers a very poor prognosis in the acute or subacute inflammatory stages. If the common duct is blocked, the stasis must be relieved. Liver damage caused by prolonged obstruction definitely darkens the prognosis.

TABLE 3.—*Complications in Relapsing Pancreatitis*

	Incidence
Pancreatic calcification	35—50%
Diabetes (usually mild)	15—25%
Steatorrhea	25—30%
Cysts, pseudocysts, abscesses	10—15%
Gastrointestinal hemorrhage	Occurs

What possible hope can be offered to patients who have recurring attacks of severe upper abdominal pain? Their lives are frequently unbearable and may end in chronic invalidism, morphinism, or alcoholism. Partial or total pancreatectomy may alleviate the symptoms in selected cases. There are several series of cases in which bilateral thoracolumbar sympathectomy[1, 2, 4] has been successful in freeing the patients from recalcitrant pain. It is, of course, a procedure which merely permits the patient to live more comfortably with a damaged pancreas.

In conclusion, it would seem that the disease is even more insidious than we know. Questions that arise are whether the severity of the disease is related to the persistence and degree of the ductal obstruction and whether it is proportional to the degree of involvement of the larger or smaller ducts. Perhaps further study of other series will lead to a better classification of the disease and to more satisfactory answers to the questions.

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Struma Lymphomatosa (Hashimoto's Disease)

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SUMMARY

Seven cases of struma lymphomatosa are presented. Two patients had known enlargement of the thyroid for five or more years. In five cases only unilateral involvement was discernible at the time of operation. In one case there was a small nodule in the least involved side. In another there was diffuse involvement. Two of the patients were males. There has been recurrence in three of six cases in which partial thyroidectomy was performed. Only one patient with recurrence was treated with x-ray, apparently with satisfactory results. Six of the seven patients had a postoperative basal metabolic rate below normal. Three of them required desiccated thyroid for symptomatic relief.

UNTIL recently, struma lymphomatosa, a disease of the thyroid gland also known as Hashimoto's disease and lymphadenoid goiter, was thought to be a rare entity. It is now known that it occurs more frequently than was previously suspected and is widely distributed. Its resemblance to carcinoma of the thyroid gland, particularly in those cases in which one side is predominantly affected in the earlier stages, makes it an important entity to be considered in the diagnosis and treatment of thyroid disease. Crotti[2] stated in 1938 that probably not more than 120 authenticated cases had been reported. Joll's[7] comprehensive treatise in 1939 leaves little to be contributed to a description of this condition. To those few cases previously recorded, he added 51 he had observed. A series of seven cases is presented herein to stress certain features which may be encountered in the management of this disease.

ETIOLOGY

The etiologic delineation of this condition, first described by Hashimoto[4] in 1912, is as yet not established. However, the concept that it bears any relationship to Riedel's disease has been disproven. Graham's[3] work has shown that Hashimoto's disease and Riedel's disease are two distinct pathological processes. Hertzler[6] suggested that it may be the result of endocrine dysfunction. Results of experimental work in rats by McCarrison[11] led him to believe that Vitamin A deficiency might be a factor.

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HISTOLOGICAL FEATURES

In this presentation, struma lymphomatosa, Hashimoto's disease, and lymphadenoid goiter are considered synonymous. Currently the criteria for the diagnosis of this disease are: (1) diffuse lymphocytic infiltration with follicle formation; (2) varying degrees of fibrosis, and (3) acidophilic degeneration of the acinar epithelium. This latter feature has been stressed by Crile,[1] and Marshall, Meissner and Smith.[9] Joll[7] insisted the entire gland is involved in the process. Means[10] in 1948 mentioned cases of unilateral character. This may represent, however, only an early phase of an involvement which in time may become diffuse. The acinar cells are usually small, low cuboidal in shape, with central nucleoli. The colloid is usually scanty, or in some areas entirely absent. Lymphocytic infiltration may be so complete in some fields that no acinar tissue can be identified. The dense fibrosis found in Riedel's disease is not present. Cases in which there is mild focal lymphocytic infiltration, such as is found in some toxic hyperplastic goiters and atrophic goiters of the aged, are not included in this category.

GROSS FEATURES

Mild to moderate enlargement is usual. In early cases there may be gross evidence of only unilateral involvement. As the process advances, eventually the entire gland will increase in size. The surface of the gland is somewhat irregular. The firmness of the affected portion is a constant characteristic. In contrast to the condition found in Riedel's disease, fixation to adjacent structures is unusual. Regional lymph glands are not enlarged. The cut surface is finely granular, and of a yellowish, or reddish brown color. Multi-lobulations may be seen, but limitation by encapsulation is not found.

CLINICAL COURSE

This disease occurs with rare exceptions in women in the fourth and fifth decades of life. In 25,000 thyroidectomies reported by Marshall, Meissner and Smith,[9] 77 cases of struma lymphomatosa were found, only one of which was in a male. The onset is insidious. A gradual, painless enlargement of the gland ensues. Voice changes, dysphagia, and cough may develop, although these are not the rule. Whenever such symptoms do occur, they are the result of pressure from a firm enlarging gland, as reported by Oldfield,[13] in which the trachea has become encircled. This process is in contradistinction to that in Riedel's disease, where extensive fibrosis may involve any of the structures adjacent to the involved

thyroid. The rate of progression is indeterminable. It may continue for many years and eventually result in total lymphocytic replacement of all functional thyroid tissue. With advancement, the clinical picture of mild hypothyroidism is to be expected. The basal metabolic rate at the onset may be normal or slightly reduced; it tends to decrease in later stages. Changes in the blood are not significant, although mild secondary anemia is not uncommon. The leukocyte count is normal, but relative lymphocytosis may be present. Fever is absent. There is no regional adenopathy.

CASE REPORTS

Following are reports of seven histologically proven cases observed by the author:

CASE 1. A white male, 53 years of age, was admitted to hospital December 13, 1943, with complaint of a moderate-sized mass in the isthmus of the thyroid, of eight months' duration. The patient had noted fatigue, puffiness of the eyelids, headaches, and gain in weight for the previous year. Desiccated thyroid, 0.2 gm. daily for the five months prior to hospitalization, had relieved all symptoms except the mass. The past history included measles and scarlet fever in childhood, tonsillectomy, inguinal herniorraphy and influenza. The general appearance was normal. There was no evidence of myxedema.

In the isthmus of the thyroid there was a firm, rounded, non-tender mass about 4.5 cm. in diameter, which moved on swallowing. The blood pressure was 152 mm. of mercury systolic and 110 mm. diastolic. The pulse rate was 70 per minute. The temperature was 98°F. Result of a Wassermann test was negative for syphilis. The basal metabolism rate was minus 18. Erythrocytes numbered 4,100,000. Hemoglobin value was 80 per cent. Leukocytes numbered 7,100 with 55 per cent neutrophils, 3 per cent eosinophils, 2 per cent monocytes, and 40 per cent lymphocytes. Non-toxic adenoma was suspected.

At operation a non-adherent firm mass occupying the isthmus was widely excised. Convalescence was uneventful.

Pathological report: The material removed was a single mass of firm, pale, lobular thyroid tissue, fibrous in consistency, weighing 6.5 gm. and measuring 3.8 by 3 cm. On gross section the color was pale tawny. Small, lobular structures were distinguished in the cut surface. Section exposed tissue in which the normal structure was widely replaced by heavy focal and less pronounced diffuse lymphocytic infiltration with considerable dense and moderately acellular connective tissue. The lymphocytic infiltration was more intense in the portions in which there was remaining degenerated thyroid tissue. There were more or less prominent follicles with well developed germinal centers. The fibrous elements were mature. The acini were in varying degrees of degeneration; swollen acidophilic epithelium surrounding a small amount of pale colloid was frequently observed. In the more advanced degenerative changes only a few large thyroid cells remained. The lymphocytes were mature, small, lymphocytic in type, and the germinal centers where present were actively hyperplastic. The diagnosis was struma lymphomatosa.

After operation, progressive hypertension developed. In August 1949 right hemiplegia occurred. In February 1950 the patient had recovered and appeared to be in good health. There was no palpable enlargement or irregularity of the remaining thyroid. The blood pressure was 190 mm. of mercury systolic and 130 mm. diastolic, the pulse rate 64 and the temperature 98°F. The basal metabolism rate was minus 24. Erythrocytes numbered 4,280,000 and the hemoglobin value was 84 per cent. Leukocytes numbered 6,800 with 67 per cent neutrophils, 3 per cent eosinophils and 30 per cent lymphocytes. The urine was normal. Cholesterol content of the blood was 258 mg. per 100 cc. There was no myxedema. Since operation the patient has required from 0.2 to 0.3 gm. of desiccated thyroid daily.

* * *

CASE 2. A white housewife, aged 47, entered the hospital Dec. 1, 1944, with complaint of a progressively enlarging goiter for six months. For three weeks she had noted pressure in the neck and pain behind the right ear. Mild nervousness and palpitation, and slight blurring of vision in the right eye were noted by the patient, and the body weight recently had increased 5 pounds. Medical and family histories were irrelevant.

The general appearance of the patient was normal. The body weight was 135 pounds. The temperature was 98.3°F., the blood pressure 120 mm. of mercury systolic and 90 mm. diastolic, the pulse rate 72, and the basal metabolism rate minus 8. Results of urinalysis and blood examination were within normal limits. The right lobe of the thyroid contained a very firm, irregular non-tender nodule about 5 cm. in diameter. The left lobe was normal to palpation. Adenoma of the thyroid gland, possibly malignant, was suspected.

At operation the right lobe was found to contain a firm, non-adherent mass. A biopsy specimen was taken. The appearance of frozen sections was reported as "suspicious of malignancy." The right lobe and isthmus were completely removed. The left lobe appeared to be normal and was left intact.

Pathological report: The gross specimen weighed 40 gm. The cut surface was firm, slightly friable and opaque, and pale, yellowish brown. The sections showed complete absence of thyroid glandular tissue, due to massive replacement by lymphocytes. The major outlines of fibrous stroma remained in some areas. There seemed to be little tendency for the lymphocytes to invade the extracapsular tissue. Clear-cut evidence of malignancy was lacking, but it was impossible to exclude lymphosarcoma. The conclusion was struma lymphomatosa.

Recovery was uneventful. Five years later there was no evidence of recurrence. The patient had been in good health without medication. Body weight had increased 5 pounds.

* * *

CASE 3: A white woman 47 years of age entered the hospital Oct. 13, 1947, complaining of fatigue and weakness for three years, and blurring of vision for five months. The latter had been partially relieved by change of glasses. The patient had noticed fullness in the neck for many years without change. Within three years there had been a 44-pound decrease in body weight, and the present weight was 110 pounds. There was history of pertussis, measles, and frequent tonsillitis in childhood. The patient had had migraine prior to the menopause, and had had occasional headache since. The family history was irrelevant, except that the father died of carcinoma of the liver.

The general appearance was normal and there was no evidence of myxedema. The blood pressure was 122 mm. of mercury systolic and 70 mm. diastolic. The pulse rate was 73, the temperature 98.4°F. There were two hard, palpable nodules in the left lobe of the thyroid, 4 x 5 cm. and 2 x 3 cm. The right lobe appeared normal. The gland moved on swallowing. There were no palpable cervical nodes. An oculist could find no explanation for the blurring of vision.

Erythrocytes numbered 4,680,000 per cu. mm. of blood, and the hemoglobin value was 77 per cent. Leukocytes numbered 6,900 with 72 per cent polymorphonuclear cells, 17 per cent lymphocytes and 2 per cent monocytes. Result of a Wassermann test was negative for syphilis. The basal metab-

olic rate was minus 13. Adenoma of the left lobe, possibly malignant, was suspected.

At operation the left lobe was found to be about one and a half times normal size, firm, and slightly nodular. The right lobe appeared normal. The entire left lobe together with the isthmus was excised. No tissue was removed from the right.

Pathological report: The specimen of thyroid tissue weighed 42 gm., and measured 8 x 4 x 4 cm. The cut surface was pale, reddish brown and homogeneous. A scant amount of colloid was visible. Sections showed acini with low columnar epithelium, well filled with colloid. In some areas the acini were small and the colloid absent. There was pronounced diffuse infiltration of lymphocytes through the supporting stroma. Many areas of infiltration were focal with formation of lymph follicles. There was no increase of stroma and no evidence of malignancy. In many areas there was acidophilic degeneration of the acinar epithelium. Diagnosis: struma lymphomatosa.

The postoperative course was uneventful. In May 1949 the basal metabolic rate was minus 11. There was moderate enlargement of the right lobe, which was freely movable, non-tender and firm in consistency. The patient was unaware of this development, felt well without medication, and declined further treatment.

* * *

CASE 4: A white woman, 50 years of age, entered the hospital Aug. 24, 1948. In November 1947 while the patient was being examined for an unrelated problem, the thyroid was observed to be slightly enlarged throughout. It was irregular and firm and not fixed to surrounding tissue. Although informed of the findings, the patient did not return as requested until Aug. 1948. The body weight had increased 11 pounds in the interim. The patient complained of fatigue, headaches and nervousness. Hoarseness and a non-productive cough had developed.

Hysterectomy for fibroids had been done seven years previously. Menopausal symptoms were relieved by occasional use of estrogens. The patient had had pneumonia in Aug. 1947.

The body weight was 142 pounds. Blood pressure was 120 mm. of mercury systolic and 80 mm. diastolic. The pulse rate was 70 and the temperature 98°F. Heart and lungs were normal. Mild hoarseness was noted. The thyroid was enlarged, irregular and firm. There was no fixation to the surrounding structures, and no tenderness or regional glandular disease. Upon laryngeal examination, adductor weakness of the right cord was noted. No abnormality was noted in an x-ray film of the chest, and there was no displacement or compression of the trachea. The basal metabolism rate was plus 13. A Wassermann test was negative for syphilis. Erythrocytes numbered 3,900,000, and the hemoglobin value was 78 per cent. Leukocytes numbered 5,800 with 60 per cent neutrophils, 38 per cent lymphocytes and 2 per cent monocytes. Chronic thyroiditis, possibly struma lymphomatosa, was suspected.

At operation, the thyroid was found to be moderately enlarged, nodular and indurated throughout. No grossly normal tissue could be demonstrated. There was no fixation to surrounding structures. Upon frozen section biopsy, struma lymphomatosa was reported. In view of the extensive involvement, including evidence of interference with the right recurrent laryngeal nerve, total thyroidectomy was carried out. The postoperative course was uneventful.

Pathological report: The specimen was a firm, pale, tawny thyroid gland, weighing about 38 gm. and showing a lobular, homogeneous cut section. Section showed thyroid tissue with extensive lymphocytic infiltration throughout, often focal in character, and accompanied by follicle formation with well defined germinal centers. There was an increase in connective tissue with lymphocytic infiltration and fibrous tissue replacing the thyroid alveoli, which showed degenerative changes. The epithelial cells generally were large and cuboidal and had a pink staining reaction. Colloid was largely absent and that which remained was of pale staining reaction and poor quality. Diagnosis: Struma lymphomatosa.

When last examined in Aug. 1949 the patient was free of complaints. The body weight was 142 pounds. The basal metabolic rate was minus 8. An average of 0.2 gm. of desiccated thyroid daily was taken. On smaller doses, fatigue and leg pains developed. There was no evidence of myxedema. The hoarseness was less and the cough had disappeared.

* * *

CASE 5: A white male physician, 66 years of age, entered the hospital Nov. 8, 1948, with complaint of progressive enlargement of the left lobe of the thyroid of one month's duration. There were no pressure symptoms, weight loss, or evidence of thyrotoxicosis. Past history was irrelevant. The patient's mother had died of diabetes.

The general appearance was normal. The temperature was 98.2°F., the pulse rate 72, blood pressure 124 mm. of mercury systolic and 80 mm. diastolic. The body weight was 180 pounds. There was a hard, diffuse enlargement of the left lobe of the thyroid, measuring 5x3 cm. It was unattached to the overlying structures. There was no tenderness. A small nodule was palpated in the upper portion of the right lobe. There was no regional adenopathy. The basal metabolic rate was minus 12. Result of a Wassermann test was negative for syphilis. Erythrocytes numbered 4,730,000 per cu. mm. of blood, and hemoglobin value was 80 per cent. Leukocytes numbered 9,450 with 55 per cent polymorphonuclear cells, 38 per cent lymphocytes, 4 per cent monocytes and 3 per cent eosinophils. The urine was normal. Malignant disease in the left lobe of the thyroid was suspected.

At operation the left lobe of the thyroid was found to be two and one half times the normal size. It was firm, slightly irregular, and appeared to be well encapsulated and not attached to adjacent structures. The isthmus and right lobe were grossly normal except for the small nodule previously noted. The left lobe and isthmus were removed. No resection of the right lobe was carried out.

Pathological report: The specimen consisted of a slightly nodular, encapsulated mass of thyroid weighing 76 grams. The cut surface was uniformly pale, yellowish brown, and homogenous. Colloid was grossly absent. Sections showed massive infiltration with lymphocytes. In some areas remnants of atrophic acini could be seen. These contained a small amount of colloid. In areas around the acini there was heavy infiltration of normal appearing lymphocytes. Beyond these areas lymphocytes were larger and showed more abundant cytoplasm. These were similar to the cells in the germinal center of lymph follicles. In some areas there was a diffuse increase of stroma. Mitotic figures were rarely observed. Although the findings were consistent with struma lymphomatosa, the possibility of lymphosarcoma could not be entirely eliminated.

The postoperative course was uneventful. At the end of six months, however, the right lobe had become enlarged, with gross characteristics similar to those found in the left lobe before operation. X-ray therapy was given with prompt regression of the enlargement.

* * *

CASE 6: The patient, a white woman 36 years of age, was admitted to hospital Nov. 25, 1948, with complaint of gradual enlargement of the right lobe of the thyroid for one year, unaccompanied by pressure symptoms. There were no symp-

toms of thyrotoxicosis. Past history included chicken pox, mumps, measles, pneumonia, tonsillectomy, appendectomy and excision of ovarian cyst, cholecystitis, and cholecystectomy. The family history was non-contributory.

The general appearance was normal. The body weight was 128 pounds. Heart and lungs were normal. Blood pressure was 108 mm. of mercury systolic and 68 mm. diastolic. The pulse rate was 88, the temperature 98°F. The right lobe of the thyroid was enlarged the size of a walnut and was smooth, firm, movable and non-tender. The left lobe was slightly and uniformly enlarged. There was no cervical adenopathy or fixation. The basal metabolic rate was minus 20. Erythrocytes numbered 3,580,000, and the hemoglobin value was 70.6 per cent. Leukocytes numbered 10,400, with 71 per cent polymorphonuclear cells, 23 per cent lymphocytes and 6 per cent monocytes. A Wassermann test was negative for syphilis. Non-toxic adenoma, with possible malignancy, was suspected.

At operation the right lobe was found to be two and one-half times normal size, slightly lobulated, firm and non-adherent. There was slight diffuse enlargement of the left inferior pole. The entire right lobe and isthmus were removed. On the left, subtotal thyroidectomy to remove that portion of the inferior pole which appeared abnormal, was carried out.

Pathological report: The specimen consisted of thyroid tissue weighing 50 gm. The cut surfaces were pale, yellowish brown and homogeneous. Colloid was almost entirely absent. The specimens were encapsulated and slightly lobulated. There was pronounced atrophy of the acini, the majority of which were small and lined by columnar epithelium. Some of the acini were devoid of colloid. Acidophilic degeneration of the thyroid epithelium was observed in many areas. There was no particular increase in stroma, but there was pronounced infiltration of lymphocytes. In some places these formed lymphoid follicles. There was no evidence of malignancy. The diagnosis was struma lymphomatosa.

The convalescence was without event. When last observed, in May 1949, the patient was in good health without medication. There was no evidence of myxedema. Upon examination, however, a firm, non-tender movable mass the size of a walnut, involving the left lobe, was noted. The patient was unaware of it. The basal metabolic rate was minus 16. The patient moved to another locality and further follow-up was not possible.

* * *

CASE 7: The patient, a white woman 36 years of age, entered the hospital Sept. 15, 1949, complaining of nervousness, irritability, and recent loss of ten pounds in body weight. There were vague pains in the wrist and knee. The patient had been observed from time to time over a period of ten years in the hospital clinic, for various minor diseases. Throughout this time, moderate diffuse enlargement of the thyroid had been noted. In 1948 a nodule was noted in the right lobe. Past and family histories were irrelevant.

The general appearance of the patient was that of a person with hyperthyroid disease. There was mild myxedema. The skin and hair were dry. The temperature was 97.6°F., pulse rate 72, and blood pressure 120 mm. of mercury systolic and 84 mm. diastolic. The thyroid was diffusely enlarged but asymmetrical. The right lower pole was nodular, moderately firm and non-tender. The basal metabolic rate was minus 18. The cholesterol content of the blood was 226 mg. per 100 cc. A Wassermann test was negative for syphilis. Erythrocytes numbered 3,800,000, and the hemoglobin value was 70.6 per cent. Leukocytes numbered 7,500 with 57 per cent polymorphonuclear cells, 6 per cent monocytes and 37 per cent lymphocytes. Adenoma of the thyroid with hypothyroidism was suspected.

At operation the gland was found to be moderately firm and diffusely enlarged. There was a nodule at the right lower pole. No attachment to surrounding structures was noted. Subtotal bilateral thyroidectomy was done.

Pathological report: The specimen consisted of a mass of thyroid tissue weighing 25 gm. The cut surfaces were reddish brown and showed a scant amount of colloid. Tissue from various parts of the thyroid was histologically similar. There was massive infiltration with lymphocytes which in places formed follicles with germinal centers. The acini were widely spaced and small, and were lined with columnar epithelium having large round nuclei with much pale thin cytoplasm. Mitotic figures were not observed. None of the acini contained colloid. There was no general increase in stroma. Diagnosis: struma lymphomatosa.

When observed in February 1950, the patient complained of fatigue and listlessness. The basal metabolic rate was minus 21. The cholesterol content of the blood was 464 mg. per 100 cc. The body weight was 162 pounds. The patient was given 0.06 gm. of desiccated thyroid daily, and one month later she reported pronounced improvement. There was no evidence of enlargement of the remaining thyroid tissue.

DISCUSSION

When struma lymphomatosa is in the phase in which only one portion of the thyroid gland is involved, the gross findings may simulate those of malignant disease in an early stage. This is contrary to the reported experience of others[14] who have stated that the diffuse nature of struma lymphomatosa makes for an unequivocal diagnosis.

The wide removal of all grossly involved tissue does not insure against continuation of the process in the remaining gland. Although Hashimoto[4] in his original paper stated that thyroid tissue remaining after incomplete removal tended to regress, it has been the experience of the authors that goitrous development of the remaining thyroid gland is unpredictable. In six such cases in the authors' series, there was recurrence in three within a period of less than two years. In two cases there has been no evidence of recurrence in a period of more than five years.

Hashimoto's disease presumably may exist for many years in an unprogressive state. During this period it may have clinical characteristics undistinguishable from those of non-toxic adenoma. This is illustrated in Cases 3 and 7, in which localized nodular enlargement of the thyroid had been present for five or more years, but in which no adenomatous changes were found on pathological examination following operation.

Generally, pathologists agree that interpretation of frozen sections from thyroid biopsies may not be entirely reliable. Nevertheless, the authors believe that frozen section examination should be employed in all cases in which differential diagnosis between malignant disease and struma lymphomatosa is considered.

It is noteworthy that two of the seven patients were males. McSwain and Moore[12] reported 15 cases from the New York Hospital; all the patients were females. In Joll's[7] 51 cases, plus 30 which were reported to him, only 3.7 per cent of the patients were males. In Lee's[8] 26 cases, only one patient

was a male. In Mean's[10] series of 12 cases from Massachusetts General Hospital, all patients were females.

In the cases observed by the authors there was no reason to suspect dietary deficiency as was suggested by McCarrison.[11] In the cases here reported the relative lymphocytosis noted by some investigators[12] was not observed.

TREATMENT

To date, medical treatment of this condition has been ineffectual. Surgical treatment is indicated to establish a diagnosis and rule out malignancy, and to relieve pressure symptoms. The accepted treatment to date is bilateral subtotal thyroidectomy.

The lymphoid nature of this disease makes it particularly susceptible to x-ray.[16] Hertz[5] suggested the trial use of x-ray in those cases of struma lymphomatosa diagnosed by punch biopsy. The use of radium was also mentioned. Renton, Charteris and Heggie[15] used radiotherapy in one case without any recurrence in a five-year period.

PROGNOSIS

At present, this appears to be a comparatively benign disease, the progress of which may vary greatly from patient to patient. Results of operation are usually satisfactory, but unless extensive removal has been done on both sides, recurrences tend to develop (as it did in three cases observed by the authors). In the future it may be found, however, that only conservative excision will be advisable, and radiation therapy may prove to be effectual in controlling recurrences.

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Amebiasis Masquerading as Appendicitis

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SUMMARY

In fifteen cases of amebiasis masquerading as appendicitis, the important findings were nausea, vomiting, epigastric pain, pain in the right lower quadrant of the abdomen, fever, and leukocytosis.

Amebiasis ought to be considered and appropriate studies carried out in differential diagnosis of cases in which symptoms indicate acute, subacute or "chronic" appendicitis. Depending on indications, the studies should include radiography with barium enema, sigmoidoscopy, complement fixation test, a minimum of nine stool examinations, a stool culture, and examination of purged stools unless this is contraindicated.

SINCE the recent war, much emphasis has been placed upon the diagnosis and treatment of amebiasis in its various clinical forms. During the past three years of observation at this Veterans Administration Hospital, the authors have been impressed with the frequency of amebiasis masquerading as appendicitis. In fact the similarity of one to the other was so striking in some cases that differentiation was frequently impossible on the basis of the clinical evidence alone, but was dependent to different degrees upon past history, laboratory study, the course of illness and response to specific therapy. In an excellent review, Hawe[1] discussed the differential diagnosis based upon his clinical experience in India. More recently in this country Kleitsch and Cherry[2] and Lisenby[3] called attention to this problem, particularly in ex-service personnel.

COMPOSITE CLINICAL PICTURE OF FIFTEEN CASES

The following is a composite of clinical observations in 15 cases of amebiasis which closely simulated appendicitis. All of the patients were referred by outside physicians with a diagnosis of acute appendicitis. In most cases there was history of previous similar episodes. The onset of illness was usually sudden, with mild nausea, occasional vomiting, frequently epigastric pain and, in all cases, right lower quadrant pain which was either sharp or cramp-like. In some but not all cases loose stools were passed, and occasionally definite constipation was present. Careful inquiry elicited a history of previous diarrhea or amebiasis in some cases. On examination, tenderness and rebound tenderness was often localized to the right lower quadrant, although in others it was more generalized. Muscle spasm was minimal or absent. The temperature was found to range from normal to 100°F. The number of leukocytes in the blood ranged from normal in some cases to as high as 18,000 per cu. mm. in others, with many immature neutrophils. Results of sigmoidoscopy and roentgen examination with barium enema were negative in all cases. Diagnosis was made in each case by the finding of E. histolytica in the stools and was corroborated by favorable response to specific antiamebic therapy.

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Reviewed in the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are the result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

ILLUSTRATIVE CASE REPORTS

CASE 1: A 25-year-old man entered the hospital with the following history: Six days before admission, following a beach party, anorexia developed. About 4 o'clock the following morning, the patient was awakened by nausea, epigastric pain and vomiting. An hour later the pain had shifted to the right lower quadrant, where it was sharp and non-radiating. Moderate relief was obtained with ice packs. After two days of observation in another hospital the patient was transferred to the Birmingham Hospital with diagnosis of subsiding acute appendicitis. Here the only additional notation in the history was that one month previously the patient had had a urinary infection, characterized by pyuria and dysuria, which was treated successfully with penicillin and a sulfonamide.

In a physical examination at this time no abnormality was noted. Results of urinalysis were within normal limits. The hemoglobin content of the blood was 14 gm. per 100 cc. Leukocytes numbered 18,250 with 81 per cent neutrophils. The next day the leukocyte count was 7,850 with normal cell differential. In examination of the stool, E. coli and I. buetschlii were observed. The patient was observed by both medical and surgical services and it is noteworthy that one of the staff members whose index of suspicion for amebiasis is always high felt that appendicitis was so strongly indicated that operation was warranted. He recommended, however, that more stools ought to be examined to determine if E. histolytica might not also be present. He felt that sigmoidoscopy might also be useful.

X-ray examination with barium enema was carried out and no abnormality was observed.

A normal appendix was removed. Following operation, E. coli, I. buetschlii and Giardia lamblia were observed in stool specimens. In the eighth stool examination, both the cysts and trophozoites of E. histolytica were observed. The patient was then treated for amebiasis and recovered. There was no recurrence of symptoms in a follow-up of two and one-half years.

* * *

CASE 2: A 30-year-old man entered the hospital with complaint of acute abdominal distress. On the day before

entry the patient had nausea without vomiting, and pain just below the umbilicus. He was awakened in the middle of the night by cramp-like pains in the lower abdomen bilaterally. A laxative was taken which produced loose watery stools in the morning, without relief of pain which was now localized to the right lower quadrant of the abdomen. A physician referred him to the Birmingham hospital, with a report of leukocytosis (15,000 per cu. mm.) and a diagnosis of acute appendicitis. Upon physical examination, pain and tenderness in the right lower quadrant of the abdomen and rebound tenderness in both lower quadrants were noted. There was pronounced tenderness in the right side of the rectum. Leukocytes numbered 17,300 with 87 per cent neutrophils, 10 per cent of which were immature forms. The initial impression was acute appendicitis. Further questioning elicited that the patient had been hospitalized four years previously for amebiasis. It was elected to observe the patient overnight. The next day, leukocytes numbered 9,700 with 80 per cent neutrophils, and the day after the leukocyte count was 8,100 with 60 per cent neutrophils. Six days after admission, the third stool examination was positive for E. histolytica. The patient was then treated for amebiasis and made uneventful recovery with complete abatement of symptoms.

* * *

CASE 3. A 26-year-old male was admitted for nausea and pain in the right lower quadrant of the abdomen. There was point tenderness and rebound tenderness in that sector. Tenderness on the right side was noted during rectal examination. Leukocytes numbered 11,000 per cu. mm. of blood, with 74 per cent neutrophils. E. histolytica were observed in examination of stools. Uneventful recovery followed appropriate therapy. Three weeks prior to admission, the patient had had appendectomy because of the same symptoms.

DISCUSSION

The foremost aid in distinguishing amebiasis from appendicitis is a high index of suspicion for the former disease in cases labeled appendicitis. This suspicion should lead to careful attention to details of history, with particular reference to amebiasis, diarrhea, and details of previous similar attacks. As part of the workup of every case of "appendicitis" in which it is elected to observe the patient, stool examination should be carried out immediately and repeated daily until a minimum of nine stools have been examined. In most instances stool examinations are not seriously considered as part of the investigation in cases diagnosed as acute, subacute or "chronic" appendicitis. It is worthy of further note in this regard that during the Chicago epidemic of amebiasis 41 per cent of patients who were operated upon died.[4]

It is well known that many normal appendices are removed because of symptoms highly suggestive of acute or "chronic" appendicitis. When that occurs, repeated stool examinations should be carried out during surgical convalescence to rule out amebiasis. Likewise patients with recurrent pain in the right lower quadrant of the abdomen after appendectomy should have thorough stool examinations. It would also be important to know the exact pathologic condition observed in the removed appendix.

When a surgeon, operating because of symptoms of appendicitis, finds the appendix to be normal, he might profitably explore the right colon and ileum. If for any reason the colon is opened for inspection, smears should be taken and any suspicious lesion subjected to biopsy.

The following diagnostic procedures are recommended to rule out amebiasis: A minimum of nine stool examinations—direct, stained and concentrated—should be done. Purged stools may be included, unless this is contraindicated. If nonpathogenic amebae are found, search for E. histolytica should be intensified, and attempt should be made to culture this organism. The complement-fixation test may be an aid in diagnosis, although its availability is limited. A barium enema and sigmoidoscopy may be helpful in diagnosis, as was reported by Wilbur and Camp[6] and White,[5] but in the present series of cases these procedures were of no value.

The pathogenesis of such an abrupt onset of symptoms as that which occurs in some cases of amebiasis remains obscure. The tenderness localized to the right lower quadrant of the abdomen, the occasional fever and pronounced leukocytosis, suggest an acute process—possibly acute colitis caused by secondary bacterial invasion of minute amebic ulcers. Perhaps pathologic examination of material obtained during surgical exploration and more careful stool studies will provide the answer.

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Cataract Extraction with the Erisophake

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SUMMARY

Today the erisophake offers the most successful means for the intracapsular extraction of cataracts. The advantages of this method are that no counterpressure is required so that the incidence of vitreous loss is reduced; the vacuum cup provides a firmer grasp of the lens with less danger of rupture of the lens capsule; and the vacuum cup can be used for the delivery of practically all types of cataract in the adult, including intumescent and Morgagnian cataracts as well as lenses with exfoliating and friable capsules.

While the forceps method of intracapsular extraction is generally successful in not more than 70 to 75 per cent of cases, the erisophake may offer success in 90 per cent of cases.

THE intracapsular method of cataract extraction has been proven superior to the extracapsular procedure in most instances, but perfection in this operation is yet to be achieved. The erisophake was introduced to the armamentarium of ophthalmic surgery 40 years ago by Hulen[8] of San Francisco for the specific purpose of correcting some of the obvious defects of the forceps method of lens extraction and at the same time to increase the efficiency of the intracapsular technique. Although the suction apparatus that he used was quite crude in design, Hulen demonstrated that the vacuum cup permitted a firmer control of the lens and made possible a higher proportion of intracapsular extractions without the use of external pressure and with less danger of rupture of the lens capsule or loss of vitreous. Further interest in the use of the erisophake was stimulated by Barraquer's[1] success with the motor-driven "pneumatic forceps" which he presented in 1917, and by Dimitry's[5] suction instrument. However, many surgeons of that period did not share the enthusiasm for this newer method of cataract extraction, and even today a cloud of skepticism hangs over the erisophake. For the most part, the disapproving murmurs still to be heard are the echoes of opinions expressed ten to twenty years ago by surgeons who found the suction machine mechanically inefficient and too awkward. Crossley[4] quoted Smith as declaring in 1923 that the suction apparatus was not reliable enough to warrant its use, and Wright[16] added the weight of his disapproval. In 1942, Kirby[9] described the equipment for phacoerisis as too complicated and pointed out that in spite of Barraquer's reported success in Spain, he failed to make an impressive demonstration of the erisophake when he used it in American clinics. The inadequacies of the suction apparatus in the past have erroneously identified it in many minds with such complications as permanent vitreous changes, intraocular hemorrhage, and the accidental aspiration of vitreous.

Until the development of the erisophake, the very essence of the intracapsular technique of cataract extraction was the use of the capsule forceps. At best, however, the forceps method of lens extraction has proven far from perfect. Recent evaluations of the present status of the intracapsular operation made by Knapp,[10] Kirby,[9] and Castroviejo,[3] showed that the forceps method succeeds in little more than 70 to 75 per cent of cases, with rupture of the lens capsule in approximately 20 to 30 per cent of cases, loss of vitreous in at least 5 per cent, and inability to grasp the capsule with the forceps in 10 per cent of cases.

The traction-counterpressure technique, as usually carried out with the capsule forceps and muscle hook, depends for success on a very delicate balance between the tension exerted on the lens capsule by the forceps and the pressure applied to the vitreous body. Too often the operation falls short of success simply because either the hyaloid membrane or the lens capsule is too weak to withstand the minimal force required to rupture the zonules and extract the lens. Loss of vitreous is certainly one of the major defects of the forceps technique. Vitreous loss in cataract operations depends primarily on the amount of pressure-manipulation to which the vitreous body is subjected. Great has been the diversity of opinion regarding the solution of this problem, and the common approach has been focused on the relative amounts of traction and pressure that should be exerted during the lens extraction maneuver. Lagrange, Spaeth, and Arruga have advocated almost the exclusive use of traction, while Smith went to the opposite extreme and relied on pressure alone for lens delivery. Careful studies on the dynamics of the vitreous body were recently made by Harrington[7] who showed that some of the complications incident to the forceps method of cataract extraction can be reduced by the proper application of pressure on the vitreous body. It is obvious, however, that the frequency of vitreous loss can never be reduced beyond a very significant percentage by a technique of cataract extraction which uses the vitreous as a hydrostatic wedge to rupture the zonules and dislodge the lens from the hyaloid fossa.

Presented before the Section on Eye, Ear, Nose and Throat at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

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The erisophake offers four important advantages over the forceps method of intracapsular cataract extraction:

1. The necessity of applying pressure on the vitreous body is greatly reduced.

2. The lens capsule is less often ruptured.

3. The broad, firm grasp of the suction cup on the capsule permits constant control of the lens during the maneuver of extraction.

4. All types of cataracts in adults can be extracted with the erisophake.

The use of the suction instrument has made possible the intracapsular delivery of cataract types which too often defy the successful application of the capsule forceps. The rubbery capsule of the intumescent lens and the thin capsule of the sclerosed, exfoliating, and Morgagnian cataracts present considerable problems when forceps are used but are not particularly hazardous when the erisophake is used. Castroviejo[3] stated that "with the erisophake the type of cataract does not have any influence" and that "the number of intracapsular extractions obtained with it is greater than in the best statistics by the method of forceps and the complications are not greater than by the other methods." Thomas[12,13] used a modification of the Dimitry instrument and in an excellent survey of the status of phacoerisis pointed out that the suction method may be used to greatest advantage in cases "in which the lens is hypermature, and in which the capsule is tense, exfoliated, or friable and will not stand any tension." Wolfe and Blaess[15] summarized their series of 100 cataract extractions by the Barraquer method in which intracapsular extraction was achieved in 91 per cent of cases; the visual acuity was 20/20 or better in 90 per cent of cases, and the results of the operation were successful in 99 per cent of cases. Other strong advocates of the erisophake are Nugent,[11] Fisher,[6] and Veirs.[14]

For cataract extraction with the erisophake, the motor-driven instrument has proved very dependable. The model designed by Castroviejo delivers a vacuum ranging from 55 to 65 cm. of mercury and has the advantage that the relatively constant vacuum can be controlled by the operator through an electric foot switch. No awkward manipulation, such as that necessary with the Dimitry syringe, is required to reestablish suction.

OPERATIVE TECHNIQUE

An erisophake extraction is made easier if the pupil is well dilated, and for that purpose 5 per cent homatropine and 10 per cent Neosynephrin® are instilled about 45 minutes before operation. The addition of hyaluronidase to the procaine-epinephrine combination greatly improves the effectiveness of the O'Brien and retrobulbar anesthesia. The corneal section is then performed; corneal sutures are inserted; and the corneal section is enlarged to 180 degrees. Iridectomy is then done, although an extraction may be carried out through a round pupil. It is advisable to elevate the corneal flap while introducing the suction instrument into the anterior chamber so that the suction cup can be accurately applied to the lens capsule without contact with the corneal endothelium or the iris. A firm but delicate grasp of the lens capsule is achieved as soon as the vacuum pump is turned on. The maneuver of cataract extraction with the erisophake is far simpler than when capsule forceps are employed. Except in those cases in which the zonules are relatively tough, little if any pressure need be applied to the vitreous body because the initial traction on the lens capsule by the vacuum cup often breaks many of the zonular attachments and a slight side-to-side rocking of the cataract completes the rupture of the zonules. The lens can be tumbled in the orthodox manner, but it is easier to roll the cataract out or slide it out "head first." Counterpressure is limited to the small amount needed to guide the lens through the corneal section. If the suction cup is tilted away from the lens capsule, the vacuum may be momentarily interrupted, but the surgeon can immediately restore the suction of the motor-driven instrument by merely reapplying the cup to the lens. If on rare occasion the lens capsule breaks during the delivery, the operation can be continued as an extracapsular procedure.

The surgeon who uses the erisophake has the gratifying assurance that the vast majority of cataracts in the adult can be extracted intracapsularly without loss of vitreous and with excellent visual results. In the author's surgical series, intracapsular extraction was achieved in only 62 per cent of cases when the forceps were employed, but since the erisophake was adopted the percentage of successful intracapsular deliveries has risen to approximately 90 per cent and there have been no complications.

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Discussion by MAURICE W. NUGENT, M.D., *Los Angeles*

I cannot recommend this method of cataract extraction too highly. I have used the Castroviejo suction kit in over 200 consecutive cases of adult cataract, and intracapsular extraction was obtained in 92 per cent. Vitreous loss occurred in 4 per cent of cases. Surgically, the results could be represented by a figure of 98 per cent.

In this series there were mature and immature senile cataracts both nuclear and cortical, capsular cataracts, diabetic cataracts and cataracts secondary to glaucoma and surgical treatment for that disease, and to iridocyclitis. Two capsules were broken in cataract extractions that followed iris inclusion operations, but results were excellent. In other words, no attempt was made to select cases. No complication occurred that could in any way be attributable to this method of extraction.

Corneal section was used in all cases, and one, two or three corneoscleral silk sutures were used (I recommend three or at least two). A bubble of air was almost always placed in the anterior chamber at the end of operation. Round pupils (with peripheral iridectomy or iridotomy) were easily obtained. However, I would like to go on record as stating that I definitely prefer complete basal iridectomy in cataract extractions, no matter what method is used in removing the lens. My reason for this is that extraction is usually easier and postoperative complications definitely less.

In using suction I prefer to place the cup at or just below the center of the lens and to use a minimum of counterpressure. The cup, when in place, should be moved from side to side as with forceps, with some attempt to create torsion by horizontal rotation. Then, when zonules are adequately broken, the lens may be delivered by elevation and sliding.

Dr. Alexander's statements and experiences are so similar to mine that further discussion would only be repetitious.

CASE REPORTS

Anal Herpes with Generalized Varicelliform Eruption

Report of a Case

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ALTHOUGH the occurrence of generalized varicelliform eruption with herpes zoster has been discussed previously, the case here reported is noteworthy because of unusual distribution of the herpetic lesion over the perineal region. Blank and Best[1] stated that herpes zoster involves the sacral nerves in less than 2 per cent of cases. In the present case, anal localization of the painful eruption led to the initial impression that the patient had a proctologic lesion, such as rectal abscess or anal fistula.

CASE REPORT

A 54-year-old dentist entered the Franklin Hospital, San Francisco, with complaint of a steady rectal pain which had increased in severity over a period of seven days.

At the onset there was dull steady pain in the rectum which was exacerbated by defecation. No significant alteration in the bowel habit occurred, and the stools were negative for gross blood or pus. The pain became more severe and was described as lancinating in quality at times. Dysuria, which consisted of burning, localized to the left side of the urethra, was present on the second day. On the third day, sharp pain radiated down the posterior aspect of both legs to the heels. It became steady and severe, and was exacerbated by ambulation.

The patient consulted a physician who noted no abnormality in a proctoscopic examination. On the following day, five days after onset, the oral temperature was 100°F., and the patient noted an erythematous patch, 8 by 4 cm. in size, to the left of the anal margin. Fearing rectal abscess, the patient ingested 3 gm. of aureomycin in a period of 36 hours. The temperature became normal, but because of the unrelenting pain, the patient entered the hospital on the seventh day.

The patient had not had varicella as a child, and had not known recent contact with this disease.

Upon physical examination a diffuse semicircular patch of erythema was noted, starting sharply at the midline adjacent to the anal margin and extending laterally to the left, approximating the sensory distribution of the fourth and fifth left sacral nerves. There were 12 vesicles of about 5 mm. in diameter, and the entire area was moderately tender. Digital and proctoscopic examination was performed without difficulty, but no further abnormality was observed. Except for palpatory tenderness of both heels, the remainder of the physical examination was negative. The blood and urine were normal, no abnormality was noted in an x-ray film of the chest, and the result of a Wassermann test was negative for syphilis.

A tentative diagnosis of herpes zoster was made, and local therapy and oral analgesics were given. Although the patient felt more comfortable, the temperature rose to 100°F. The following morning there were several erythematous papular lesions on the trunk which did not follow a specific nerve distribution. Later in the day the patient complained of generalized myalgia, anorexia and moderate frontal headache. Several new papules had appeared on the perineum and scrotum. Aureomycin was given orally, 250 mg. every four hours. Four hours later the patient was more uncomfortable and the temperature was 102.2°F. The previously noted papular lesions had become vesiculated and about 50 new erythematous papules on the trunk had appeared.

During the ensuing 48 hours the patient became afebrile and the papular exanthem faded rapidly without vesiculation, in contrast to the lesions present before administration of aureomycin. The primary herpetic lesion was involuting, and the severe pain had disappeared on the fifth hospital day. The dosage of aureomycin was reduced to 250 mg. every six hours. The patient remained afebrile for the next three days and aureomycin was discontinued. There were no remaining symptoms except for pruritus ani, which cleared completely in the ensuing week.

DISCUSSION

Le Feuvre[6] in a survey of the *British Medical Journal* from 1913 to 1927 found reports of 35 cases of herpes zoster followed within one to four days by a varicelliform eruption. Cipollaro[3] reported cases followed in five days by generalized vesicular eruption. Valentine[8] described the case of a 54-year-old male who had pain with a segmental vesicular eruption on the back and right arm. This was followed the next day by a fever of 102°F. and the characteristic rash of chickenpox over the trunk which cleared shortly without complication.

Sprecher,[7] in commenting on the rarity of anoperineal involvement with herpes zoster, stated that the eruption becomes increasingly rare as lower segments along the spinal axis are affected. He described a case similar to that of this report, characterized by severe anal pain spreading to the buttocks and thigh with regional adenopathy and closely following perineal rash which was mistaken for eczema.

In the present case the pruritus ani may have been a postherpetic manifestation or, as Harris[5] suggested, may have been caused by aureomycin. Harris described anal fissuring and bleeding in two female patients, and anal itching and burning in one male patient who had received aureomycin. It was felt that the anal symptoms could have been caused by interruption of the synthesis of vitamin B complex by the intestinal flora or by an overgrowth of Monilia albicans following the suppression of normal enteric bacteria by aureo-

mycin. It is possible that one or both of these factors accounted for the pruritus in the case here reported. The rapidity with which the generalized eruption and fever disappeared suggests response to aureomycin, although the authors have observed several cases in which herpes zoster subsided spontaneously within a similar period.

SUMMARY

A case of herpes zoster with unusual distribution over the perineal region is reported. A generalized varicelliform eruption followed soon after the initial lesion and cleared without complication while the patient was receiving aureomycin.

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Rat Bite Fever — Response to Streptomycin Therapy

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AN acutely ill five-month-old male Mexican baby was admitted to the Communicable Disease Unit of the Los Angeles County Hospital. The baby had been well from birth until five days previously when he was bitten by a rat on the right little finger. Two days later he became febrile and very irritable.

On admission to the hospital the patient had a temperature of 103.8° F., a pulse rate of 150, and respiratory rate of 36. There was a healing abrasion on the right fifth finger, and a few macules scattered on the trunk, but no other findings. Leukocytes numbered 14,000 with 55 per cent polymorphonuclears and 45 per cent lymphocytes. The hemoglobin content was 6 gm. per 100 cc. The urine and spinal fluid were normal. Blood was taken for culture and routine agglutinations.

The subsequent course in the hospital was stormy. The temperature was "septic," with peaks to 104.6° F. Special nursing care was provided and a blood transfusion was given on the second hospital day. On the third day pronounced painful swelling of all fingers and toes developed and there was a fine maculopapular eruption on the trunk and extremities. On the fifth day an organism grown on the blood culture was identified as Streptobacillus moniliformis. The baby was then treated with streptomycin—an initial dose of 0.5 gm. followed by 0.25 gm. every four hours.

The response was striking. Temperature dropped to normal within 24 hours and stayed so. The toxic manifestations, arthritis, and rash rapidly disappeared. The baby was given 1 gm. of streptomycin daily for one week and then discharged from the hospital, cured.

From the University of Southern California Medical School and the Communicable Disease Unit of the Los Angeles County Hospital.

SUMMARY

The clinical picture of the case of rat bite fever (Haverhill fever) presented here was typical: Rat bite, "septic" fever, rash and arthritis. The Streptobacillus moniliformis was identified on a culture of blood. There was striking response to streptomycin therapy.

California MEDICINE

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EDITORIALS

Medical Education as It Should Be

The American Medical Association performed a master stroke at its recent Cleveland meeting when it announced the appropriation of $500,000 for distribution among the country's medical schools. Immediately the principal sum was announced, individuals and others added several thousands more and the way was left open for further contributions.

Coming at this particular time, the A.M.A. appropriation serves not only as a stimulus to some of the medical schools that have had financial troubles but also as an answer to those critics, in government and out, who have looked askance at the association's opposition to federal funds for medical schools. The most conservative of these critics have considered the A.M.A. as reactionary; the least conservative have charged that by opposing federal grants to medical schools the "medical trust" is attempting to limit the number of new medical graduates and thus build a private economic reserve for present physicians. The absurdity of such charges does not warrant an answer but the propagandists continue their wild accusations.

Those in government know only too well the dictum of the U. S. Supreme Court in its holding that where the federal government contributes funds it must dictate the use of such funds. Translated into terms of federal funds for medical schools, this rule would necessarily imply that the federal government could and must dictate to the medical schools their courses of study, methods of instruction and all other administrative matters; as applied to the students, it could well be twisted into a mortgage on the future services of any physician attending a federally aided medical school.

These are the dangers the medical profession has seen in the proposed granting of government moneys to our medical schools. The entire profession has been well represented by the American Medical Association in its opposition to the federal fund proposal. True, some medical school officials have succumbed to the lure of "free money" because of the expediency of the idea. On the other hand, to the everlasting credit of some deans, there has been a wide area of disapproval of federal money and adherence to the principle that all other sources of funds must first be exhausted before Uncle Sam was allowed to put his finger on our medical schools and our medical students.

The voting of a substantial sum by the A.M.A. sets the ball in motion for the private support of our needy medical schools. It shows that the medical profession can and will take care of its own; it shows that physicians individually and collectively prize their academic freedom and their right to establish their own courses of study on the basis of science and not politics. The doctor is and must be trained to serve his patients, not a government official. To lose that tradition would set medical practice back hundreds of years and would inevitably lead to an even greater measure of federal domination of the profession and of all other phases of American life.

It is fortunate that the A.M.A. funds are coming from the moneys raised for the National Education Campaign. Here is a real boost to education, carried directly to the education of our doctors. The announcement of the appropriation carried the state-

ment that "this fund will be given to the medical schools for their unrestricted use in their basic training of future physicians." If the federal government had been able (even if willing) to use that adjective "unrestricted," there probably would have been little opposition to its offer of assistance to the schools. In the circumstances, the doctors have been wary of the gift-bearing Greeks. Now they have found their own way out of a dilemma, a way which preserves all that is finest in medical education as well as in the traditions of American competitive enterprise.

One thing remains. The American Medical Association has opened the door to the support of medical education by calling on its own members to contribute to the cause. The profession has long worked to improve its scientific knowledge and has accomplished noteworthy gains in that direction. Now it has the opportunity of seeing to it that its own members, during their years of practice, contribute annually to the maintenance of educational courses which cost far in excess of the ability of the students to pay.

The medical student enjoys four or more years of education at a price much below cost. Why should he not, when he is able, contribute modestly toward the bridging of the gap between costs and tuition for medical students? It is hoped that state and county medical societies, specialty groups, fraternities and other medical organizations will go along with the A.M.A. and establish the helping hand ideal on a firm base. By doing so, medicine will retain its rightful pride in its educational processes and will gain the unstinted acclaim of all citizens who love freedom and are willing to contribute to it.

Eleven Years After

With the start of a new year we can look back over the accomplishments of the year just gone and farther back to the end of 1939, when California Physicians' Service was put into operation. Eleven years after this event, the product looks very good from all points of view.

C.P.S. was started after years of study by a large group of thinking physicians who recognized the public need for a sound, statewide, ethical plan to budget the costs of medical care. Of all the plans under consideration over the years, the service type represented by C.P.S. offered the most practical method of providing a high type of service for the public and simultaneously giving the doctors control over the disposal of their professional services.

Starting on an uncharted course, C.P.S. ran into its full quota of difficulties, both with the public and with the profession. As each obstacle was encountered in its empirical course, C.P.S. found a way of meeting the problem and guiding itself into the channel best designed to provide smooth sailing. This process still goes on, as witness the recent developments in the operations of the first statewide, physician-sponsored health insurance program in the country.

Within the past year C.P.S. has been able to make adjustments in its contracts, to assure the earning of a full fee schedule and get away from the discount basis of payment which has existed ever since its starting days. The new contracts are being installed as rapidly as possible. Physician members may look forward to receiving more adequate compensation under this program.

Also within the past year C.P.S. has strengthened its physician relations department, that branch which contacts nurses and secretaries to assist them in their handling of C.P.S. cases, forms and other matters. Along the same line, a Physician's Manual is under way for early distribution, to give the doctor a concise picture of how C.P.S. cases may be most effectively handled in the mutual interest of the doctor and the patient.

County review committees have been set up throughout the state, each appointed by the president of the county medical society. These committees give every doctor a chance to bring before his own colleagues any C.P.S. problems which may be confronting him. The committees serve as a sounding board of local opinion and provide a real grass roots control over C.P.S. The House of Delegates of the C.M.A., sitting as Administrative Members of C.P.S., also brings the control of the organization right back to the local community.

As of the end of 1950 C.P.S. reports close to one million beneficiary members and more than 10,750 physician members. This expression of confidence from both the public and the medical profession is eloquent evidence of the need for the service provided and the public acceptance of the doctors' own plan. C.P.S. is literally a great force in the fields of human service and public opinion. In actual practice, C.P.S. stands as the profession's greatest bulwark against the encroachment of politically-sponsored health insurance plans.

To the public, California Physicians' Service represents the guide for budget-basis medical care, the leader which sets consistently higher standards for others to emulate in serving the public. To the medical profession, C.P.S. is an expression of the doctors' own ability to meet a public demand under controlled conditions which protect the physician-patient relationship and the quality of the care provided. Consistent improvement in operating methods is ironing out the little details of trouble; meanwhile, the concept remains sound, stable and greatly important.

A Medical Corps for the Armed Services

Reprinted from the October 1950 issue of Surgery, Gynecology and Obstetrics

Once more with the steadily approaching specter of a general world war, there is a stockpiling of all the commodities of combat against the day of eventual full emergency. Airplanes, tanks, atom bombs, food, combat personnel; in fact, all the armamentarium is being assembled for readiness.

Unheeding an experience no more than five years past, there is every evidence that the medical profession is to be regarded as a commodity which can be stockpiled and expended extravagantly. In fact, high command military officials, speechmaking Congressmen and glib, syndicated columnists support the demands for doctors by charges which intimate disloyalty and ingratitude on the part of physicians. Unfortunately, these statements have been supported by spokesmen for the medical profession.

The United States has never been engaged in any war wherein the medical profession has deported itself in any way except to the benefit of the wounded, the honor of the nation and to its own great credit. Moreover, in the minds and hearts of the doctor soldiers, the importance of their contributions has always been in that order.

It was generally conceded at the end of World War II that the care rendered the wounded by American doctors was the best in the history of any war and certainly better than the average care received by the casualties of any other nation.

All of this was done with a concerted effort by a profession whose principles are those of saving life rather than inflicting death. There is no instance which would indicate that the individual doctor is any less loyal to the support of his government than any other citizen and there is abundant evidence that as a profession physicians have been an outstanding example of group patriotism.

Now, however, doctors are to be drafted into the military services. It would seem appropriate to examine some of the circumstances surrounding the precipitate legislation which has been hurried through the Congress and which can and may lead to the peacetime regimentation of doctors without the necessity of passing a bill for socialized medicine.

It has been stated that those young doctors who were in medical school during World War II in either Army or Navy educational programs owe their education to the government. It has never been pointed out, however, that the majority, if not all, of those medical students had chosen medicine as their life's work and were either enrolled in medical schools or were engaged in their premedical education. They were inducted into the Army or Navy and, *at the convenience of the government,* were ordered to units which insured the continuation of their studies and the production of doctors necessary to the war effort.

Young men were given intelligence and aptitude tests which were designed to convince the Army and Navy that they were suited to become doctors. What prevented the assignment of these men to combat units which Congressmen and columnists have indicated would have been a more honorable service?

The evidence of the beliefs of these gentlemen lies in their columns and in their revisions of the Selective Service Law. It is undoubtedly a fact that every medical student during the period of World War II would have become a doctor upon his own initiative and by his own mental and financial efforts. Why, then, should this group of young doctors be stigmatized by what is apparently and admittedly class legislation? Other men were trained in other fields during the past war and upon their return to civilian life have taken advantage of that training. It is right that this be so, but do they owe that training to the government which ordered it to suit the needs of the military? Did they not serve honorably and well?

Why is it that the medical profession has not volunteered in numbers sufficient to make a draft unnecessary? The answers lie within the organization of the Medical Corps of the Army, Navy and Air Force.

Is it unreasonable to assume that their attitude may have been colored by firsthand knowledge of the frustrations, stupidities and inefficiency of direction suffered just a few years ago? Doctors were justifiably irritated by the inanities of plans and training programs, forced upon them, not through reason, but by superior rank and written rule to support that rank. They remember not being allowed to schedule operations because upon that morning all doctors must devote themselves to the inspection of latrines, the motor pool and the enlisted men's day room. They remember being ordered to leave their wards of sick and wounded men to act as military police for two weeks, before being allowed to come up for promotion in rank. During those two weeks, instead of treating battle wounds, malaria, or hepatitis, they remember making the rounds of houses of prostitution to rout out the wayward G.I., or they trapped the unwary soldier on the street for not saluting properly, or they caught him out on pass and made him roll down his sleeves or jerk up his tie. Might not these be examples of the extravagant use of the medical profession?

It is also difficult for the civilian doctor to understand why the Navy, Army and Air Force insist upon having separate and distinct hospitals under their own command. It is hard for the surgeon to understand why a fractured femur, regardless of whether it was sustained in ground combat, on a ship, or in an airplane accident, should not be treated in the same manner in one hospital to which any soldier, marine, sailor or airman might be sent.

It is difficult for the civilian doctor to understand why unification, not upon paper but actual unification, of the medical services to the wounded cannot be effected. The medical profession knows that the office of the medical director to the Department of Defense is not unification of the medical services. There would seem to be only two answers possible which would explain the failure to implement the recommendations submitted for unification of the medical services. One answer is political expediency, because it is obvious that the President of the United States, as Commander-in-Chief, could put such a unification plan into effect immediately. True it is, that he would have to dismiss the present surgeons general of the Army, Navy and Air Force. The second reason is that command of separate hospital installations means command of personnel and the latter means the distribution of rank according to tables of organization. Rather simply stated, three separate medical services mean more colonels and generals.

Finally, the attitude of the civilian doctor toward the present military situation may reflect his concern over the fact that he knows that never again can medical talent be squandered in time of war. Atomic all-out warfare means medical care for the entire civilian population as well as those in combat. The thoughtful doctor knows that the abilities of his profession, private and public hospital facilities, medical supplies, indicated elective surgical procedures; in fact all medical care in this country will have to be rationed circumspectly. He knows that in the hospitals of the Veterans Administration there are beds occupied by patients with nonservice-connected disabilities which could be used for the present Korean casualties. He knows that they would receive the highest type of medical care in the several veterans' hospitals associated with medical schools; he knows that men whose wounds require amputation of an extremity should be flown immediately to those veterans' hospitals wherein they may receive the benefits of all of the research and investigations which have been carried on in recent years upon prosthetic appliances and rehabilitation of the amputee; he knows that the Army, Navy and Air Force should have staffed and organized their hospitals by the part-time services of the civilian doctors in peacetime so that the transition to war could have been smooth and uninterrupted; he knows that this was not done because a doctor in civilian clothes does not fulfill the requirements of a table of organization for command purposes; he knows that the Veterans Administration enrollment, organization and utilization of the civilian medical population has been successful.

There should be a medical corps for the armed services and hospitals for the sick and wounded from any branch of the armed services. Indoctrination of doctors into the combat field peculiarities of ground, sea or air fighting is not an insurmountable task under such a service. It would not be difficult to create a pool of regular armed service doctors who would be attracted to such a career of medical and public health administration and would be competently trained to coordinate the efforts of the civilian doctor brought into the emergencies of war. It would be far better for efforts to be expended toward such a goal than to initiate draft legislation which is another step toward the complete regimentation of the American people.

LOYAL DAVIS

CALIFORNIA MEDICAL ASSOCIATION

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Council Meeting Minutes

Tentative Draft: Minutes of the 376th Meeting of the Council, San Francisco, November 5, 1950.

The meeting was called to order by Chairman Shipman in Room 220 of the St. Francis Hotel, San Francisco, at 9:30 a.m., Sunday, November 5, 1950.

Roll Call:

Present were President Cass, President-elect MacLean, Speaker Alesen, Vice-Speaker Charnock, Councilors Ball, Crane, Henderson, Dau, Ray, Montgomery, Lum, Pollock, Green, West, Heron, Frees, Thompson, Shipman, Bailey; Secretary Daniels and Editor Wilbur. A quorum present and acting.

Present by invitation were Executive Secretary Hunton, Assistant Executive Secretary Wheeler, Legal Counsel Hassard, Field Secretary Clancy; Dr. D. H. Murray, legislative chairman; Dr. Henry L. Gardner, secretary of California Physicians' Service; Dr. John R. Upton, Blood Bank Commission chairman; Messrs. Clem Whitaker, Jr., Ned Burman and James Dorais of public relations counsel; and county society executive secretaries Waterson of Alameda, Wood of San Mateo, Gillette of Fresno and Tobitt of Orange; Dr. Howard Naffziger, present for a portion of the meeting.

1. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 375th Council meeting, held September 9, 1950, were approved.

2. *Membership:*

(a) A report of membership as of November 3, 1950, was received, showing 10,764 active members.

(b) On motion duly made and seconded, one member whose 1949 dues had been received since the last Council meeting was voted reinstatement.

(c) On motion duly made and seconded, all members whose 1950 dues had been received since the last Council meeting were voted reinstatement.

(d) On motion duly made and seconded in each instance, three applicants were elected to Life Membership. These were: Frank H. Bowles, Alameda County, and Pliny F. Haskell and Clarence A. Johnson, Los Angeles County.

(e) On motion duly made and seconded, Dr. Thomas M. McMillan of San Diego County was elected to Associate Membership.

(f) On motion duly made and seconded, a reduction in dues was voted to seven applicants because of postgraduate study or prolonged illness.

3. *Financial:*

(a) A report showing bank balances as of November 3, 1950, was received and ordered filed.

(b) A report of receipts and expenditures for October and for the four months ended October 31, 1950, was received and ordered filed.

(c) The Executive Secretary reported that all recommendations made by the certified public accountants had been put into effect except the proposal to review the fidelity bonds in effect. On motion duly made and seconded, it was voted to secure a $25,000 total fidelity bond to cover all Association employees, in the head office or elsewhere, and the Association officers whose names appear on bank signature cards.

(d) On motion duly made and seconded, it was voted to establish the level of the Revolving Fund at $35,000, this account now representing a combination of three previous accounts.

(e) On motion duly made and seconded, it was voted to transfer to the Trustees of the California Medical Association the account now carried as the Herzstein Bequest Fund, the transfer to be made January 1, 1951, and the fund to be held as a trust fund by the trustees.

(f) Report was made that New Mexico Physicians' Service had made an additional payment of $500 on its loan, reducing the balance to $13,000.

(g) On motion duly made and seconded, it was voted to put into effect the previous wartime provisions for acceptance of new members in military service without the payment of dues and for pro rata refund of dues to members who enter military service during the calendar year.

4. *Committee on Hospitals, Dispensaries and Clinics:*

On motion duly made and seconded, Dr. Carl Mulfinger was appointed a member of the Committee on Hospitals, Dispensaries and Clinics, to succeed Francis E. Jacobs, deceased.

5. *Committee on C.P.S. Fee Schedule:*

On motion duly made and seconded, Dr. Alfred C. Dick of Del Mar was appointed a member of the Committee on C.P.S. Fee Schedule, to succeed Francis E. Jacobs, deceased.

6. *Committee on Industrial Accident Commission:*

On motion duly made and seconded, Dr. Frank A. MacDonald was appointed a member of the Committee on Industrial Accident Commission, to succeed Christopher Leggo, resigned.

7. *Committee on Public Health and Public Agencies:*

Chairman Alesen of the Committee on Public Health and Public Agencies distributed a report on the activities of the committee and it was agreed, subject to certain portions of the report being taken up at this time, that the Council would consider the report as a whole at its next meeting.

Dr. West reported on a meeting held with representatives of the National Foundation for Infantile Paralysis in an effort to secure clarification of certain policies covering the care of polio patients. A further meeting is to be held and satisfactory action expected.

On motion duly made and seconded, it was voted to approve the portion of the report dealing with examination and approval for certain functions of a school for training medical assistants.

On motion duly made and seconded, it was voted to refer back to the committee a proposal for the Association to conduct a pilot study on a multiphasic screening program, this study to be made by the committee or by a selected subcommittee and report to be made to the next meeting of the Council.

8. *Committee on Clinical Material for Teaching Hospitals:*

A report of the special Committee on Clinical Material for Teaching Hospitals was received and discussed. On motion duly made and seconded, it was voted to refer this report back to the committee for additional data and for a further study of means for carrying out the recommendations of the report.

9. *Advisory Planning Committee:*

Mr. Hunton reported that the Advisory Planning Committee had voted to commend Mr. Clancy for the splendid service he had performed in managing a ballot proposition campaign in Los Angeles. The Council expressed its appreciation.

At the request of the Committee and on motion duly made and seconded, it was voted to express to Rexall Drug, Inc., the thanks of the Association for the support of that organization in the Los Angeles campaign.

At the request of the Committee it was agreed to seek means of securing a greater degree of control over organizations entering into local campaign issues and reflecting undue discredit on the medical profession.

Mr. Hunton reported that the Committee had evolved an outline of a public relations program for the Association and would send copies to all members of the Council for consideration at a later meeting.

10. *Alameda-Contra Costa Medical Association:*

All steps for the amalgamation of the county medical societies in Alameda and Contra Costa counties having been completed, the Chairman presented a charter for the Alameda-Contra Costa Medical Association to Councilor Lum, representing the Seventh Councilor District.

11. *Blood Bank Commission:*

Dr. John R. Upton, chairman of the Blood Bank Commission, reported that the banks in San Francisco and Alameda counties were already drawing blood for overseas shipment and that two additional banks, in Fresno and Santa Barbara, had secured National Institute of Health licenses and were ready to start similar shipments.

Dr. Upton reported that eight blood banks are now in operation in the Commission's program, one will be ready to operate within 30 days, one is in the organization stage and four others are needed to complete the program.

12. *California Physicians' Service:*

Dr. Henry Gardner, secretary of C.P.S., reported that C.P.S. has now separated from Hospital Service of Southern California as to joint operations or issuance of contracts, that no appreciable loss to C.P.S. has been incurred in this separation and that C.P.S. sales are going well. He also reported that new contracts are showing a satisfactory return and that it is hoped by next spring to be able to meet the full unit value.

Discussion was held on the C.M.A.-C.P.S. liaison committee approved by the Council and it was agreed that this committee should be activated with the named members, the representatives of the House of Delegates to be named by that body when and if the House of Delegates confirms the action of the Council in appointing this committee.

13. *White House Conference on Children and Youth:*

On motion duly made and seconded, it was voted to name Dr. Hartzell Ray as an official reporter for CALIFORNIA MEDICINE to cover the White House Conference on Children and Youth, to be held in Washington, D. C., early next month.

14. *Delegates to A.M.A.:*

Discussion was held on possible instructions to the delegates to the A.M.A. for the meeting to be held in Cleveland December 5 to 8, 1950. No formal instructions were issued but it was agreed that any joint board for hospital standardization, pos-

sibly to be named by the A.M.A. and other organizations, should consist of a majority of physicians.

A motion was made and seconded for the Association to defray the expenses of section delegates to the A.M.A. who were California members, but on motion duly made and seconded, this motion was tabled.

15. *Public Relations:*

On motion duly made and seconded, it was voted to leave to the determination of the Executive Committee the discontinuance of the current radio program, as previously voted by the Council.

Mr. Whitaker reported to the Council on several items of current interest.

16. *Fee Complaints:*

Dr. Charnock reported that the secretary of one county medical society appeared to believe that the Association was not thoroughly backing up the county societies in their efforts to adjust and eliminate excessive fees. The Executive Secretary was instructed to write to this secretary to show the available areas of cooperation.

17. *Time and Place of Next Meeting:*

On motion duly made and seconded, the time and place of the next meeting were left to the call of the chairman.

Adjournment:

There being no further business to come before the meeting, it was adjourned at 5:30 p.m.

SIDNEY J. SHIPMAN, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

Executive Committee Minutes

Tentative Draft: Minutes of the 224th Meeting of the Executive Committee, San Francisco, November 30, 1950.

The meeting was called to order by Chairman Donald Lum in Room 221 of the St. Francis Hotel, San Francisco, at 4:00 p.m., Thursday, November 30, 1950.

Roll Call:

Present were President-Elect MacLean, Speaker Alesen, Council Chairman Shipman, Auditing Committee Chairman Lum, Secretary Daniels and Editor Wilbur. Absent for cause, President Cass.

A quorum present and acting.

Present by invitation during all or part of the meeting were Dr. John W. Cline, President-Elect of the American Medical Association; Dr. D. H. Murray, legislative chairman; Dr. John R. Upton, chairman of the Blood Bank Commission; Dr. Francis J. Cox, chairman of Industrial Accident Commission Committee; Messrs. John Hunton, executive secretary; William P. Wheeler, assistant executive secretary, and Howard Hassard, legal counsel.

1. *Blood Bank Commission:*

Dr. John R. Upton, chairman of the Blood Bank Commission, reported that a blood bank is now planned in Bakersfield as a part of the statewide system, that the San Diego Blood Bank would open December 1 and that the armed forces have asked for 26,000 units of blood from the Coast area for December, a large increase over previous requests. All banks in the California system have now adopted a uniform charge of $7.50 per unit for processing for community use, $6 for military use.

2. *National Foundation for Infantile Paralysis:*

An invitation from this foundation for a C.M.A. representative to attend a luncheon meeting on December 15 was discussed and it was agreed to ask Dr. C. V. Thompson to represent the Association at this meeting.

3. *Committee on Postgraduate Activities:*

A proposal to establish a separate bank account for the Committee on Postgraduate Activities, to receive funds received from registration fees at the five planned postgraduate institutes, was discussed. It was pointed out that the Constitution and By-Laws require that all Association funds be handled through the office of the Secretary-Treasurer and it was regularly moved, seconded and voted that this practice be followed, additional funds for the committee to be requested if desired by the committee.

4. *Legislative Reporting Service:*

On motion duly made and seconded, it was voted to continue the annual subscription of $495 to the Shearon Legislative Service.

5. *Committee on Industrial Accident Commission:*

Dr. Francis J. Cox, chairman of the Committee on Industrial Accident Commission, reported that his committee would meet with the insurance carriers' negotiating committee on December 7. He asked the opinion of the Executive Committee on a proposal to employ actuarial assistance to study the industrial fee schedule in its relationship to the cost of living, industrial wages and other pertinent factors. After considerable discussion it was regularly moved, seconded and voted to appoint a special committee to discuss this matter with officers of the American Medical Association at its coming meeting and, meanwhile, to authorize Dr. Cox's committee to explore the matter further, to report back to the next meeting of the Council. The chairman appointed Doctors Donald Cass, H. G. MacLean and L. A. Alesen as the special committee to meet with A.M.A. officials.

In regard to a request from an interim committee of the State Senate on a legislative proposal to place the making of a fee schedule in the hands of the Industrial Accident Commission, it was regularly moved, seconded and voted to authorize legal counsel to draft a reply pointing out the conditions under which such legislation would be opposed by the Association.

6. *Public Relations:*

Discussion was held on the question of discontinuing the present radio program, Dr. Cline participating. On motion by Shipman, seconded by Alesen, the question was raised of continuing the program for three months into 1951, to await legislative and other developments during the interim. On a tie vote, the motion was lost and the instructions already issued to discontinue this program at the end of 1950 were affirmed.

On motion duly made and seconded, it was voted that the chairman appoint a special committee to investigate the possibilities of using radio as a medium for disseminating messages from the Association to the public.

On motion duly made and seconded, it was voted to retain Whitaker & Baxter as public relations counsel at a fee of $750 monthly.

7. *Public Policy and Legislation:*

Mr. Arthur Will, director of charities of Los Angeles County, requested the support of the Association in opposing proposed legislation which would place on the counties and the state the obligation of contributing to funds to give a monthly stipend to persons declared permanently and totally disabled. Mr. Wills gave estimates on the number of persons who might potentially be covered by this program, showing that the cost to the State of California might reasonably be estimated at as high as $88,000,000 annually.

Mr. Hassard reported on a request from a congressional committee on campaign expenditures in behalf of candidates for the House of Representatives and was authorized to reply to the effect that the Association had taken no part in any such campaigns.

8. *Committee on Rural Medical Service:*

On motion duly made and seconded, the Committee on Rural Medical Service was authorized to conduct a Rural Health Conference without the publication of its proceedings.

9. *Appointment of Legal Counsel:*

It was reported that legal counsel for the current year had not been regularly appointed and on motion duly made and seconded, it was voted to appoint Peart, Baraty & Hassard as legal counsel at a retainer of $9,000 annually.

10. *Health Insurance Legislation:*

It was reported that the Governor of California had suggested that a conference be held on the question of state health insurance and it was regularly moved, seconded and voted that a special committee be appointed to meet with him if he so desired.

Adjournment:

There being no further business to come before the meeting, it was adjourned at 9:45 p.m.

DONALD D. LUM, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

In Memoriam

CLARK, WILLIAM R. P. Died in San Francisco, December 10, 1950, aged 81. Graduate of Cooper Medical College, San Francisco, 1899. Licensed in California in 1899. Doctor Clark was a retired member of the San Francisco County Medical Society, the California Medical Association, and an Associate Fellow of the American Medical Association.

✤

GARDENIER, CRANE. Died in San Francisco, December 7, 1950, aged 37, of a coronary. Graduate of Stanford University School of Medicine, Stanford University-San Francisco, 1938. Licensed in California in 1938. Doctor Gardenier was a member of the San Francisco County Medical Society, the California Medical Association, and the American Medical Association.

✤

HENRY, HERMAN. Died in San Francisco, December 7, 1950, aged 38, accidentally from cyanide poisoning. Graduate of Rush Medical College, Chicago, 1937. Licensed in California in 1938. Doctor Henry was a member of the Solano County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✤

KINDALL, LLOYD. Died in Oakland, November 16, 1950, aged 60, of bronchogenic carcinoma. Graduate of the University of Colorado School of Medicine, Denver, 1913. Licensed in California in 1915. Doctor Kindall was a member of the Alameda-Contra Costa Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✤

LIPPMAN, MARION HYMAN. Died in San Francisco, November 17, 1950, aged 58, of heart failure. Graduate of the University of California Medical School, Berkeley-San Francisco, 1925. Licensed in California in 1925. Doctor Lippman was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✤

MENDELSOHN, LOUIS. Died in San Francisco, November 12, 1950, aged 71. Graduate of Worcester Medical College, Eclectic, 1904. Licensed in California in 1924. Doctor Mendelsohn was a retired member of the Santa Clara County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✤

SINGER, JOSEPH J. Died in Los Angeles, November 8, 1950, aged 50, following a heart attack. Graduate of Northwestern University Medical School, Chicago, 1923. Licensed in California in 1943. Dr. Singer was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

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ULLMANN, HENRY J. Died near Goleta, October 15, 1950, aged 69, in an airplane accident. Graduate of Rush Medical College, Chicago, 1912. Licensed in California in 1921. Doctor Ullmann was a member of the Santa Barbara County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

California Medical Association

Revised Proposed Constitution Submitted by Reference Committee No. 3, April 30, 1950

(SECOND PUBLICATION)

Herewith is printed for the second time in CALIFORNIA MEDICINE, *the proposed C.M.A. Constitution introduced in the 1950 House of Delegates by Reference Committee No. 3 of that body.*

Included in this document is an additional proposed section introduced by Reference Committee No. 3 as an addendum to its original introduction of the proposed Constitution.

Members of the Association, and especially members of the House of Delegates, are urged to give this proposed Constitution a thorough study. It contains various provisions which are different from existing constitutional provisions and which have been under discussion in the House of Delegates in the past.

CONSTITUTION

ARTICLE I.—NAME, PURPOSES AND ORGANIZATION

Section 1.—Name

The name of this organization is California Medical Association (hereinafter referred to as the Association).

Section 2.—Purposes

The purposes of this Association are to promote the science and art of medicine, the protection of public health, and the betterment of the medical profession; to promote similar interests of its component societies; and to unite with similar organizations in other states and territories of the United States to form the American Medical Association.

Section 3.—Organization

This Association has two divisions: One, the Association as an organization; and Two, the Scientific Assembly. The Association as an organization includes component societies and their active members, the House of Delegates, Council, Commissions and Standing Committees. The Scientific Assembly includes all members of the Association and the scientific sections.

Section 4.—Definition of Component Societies

Component societies include all county medical societies (which may cover one or more counties) heretofore or hereafter chartered by this Association.

Section 5.—Component Society Charters

Charters to component societies may be granted and revoked as hereinafter prescribed, subject to the limitation that only one charter may be outstanding at any one time in any county.

ARTICLE II.—MEMBERSHIP

Section 1.—Classes of Members

The members of this Association shall consist of Active, Associate, Honorary, Retired, Life and Affiliate members.

Section 2.—Membership Qualifications, Rights, Privileges, Duties and Method of Election

The qualifications, rights, privileges, duties, obligations and methods of election of the several classes of membership are as stated in the By-Laws.

ARTICLE III.—GOVERNMENT OF THE ASSOCIATION

Part A.—House of Delegates

Section 1.—Composition

The House of Delegates shall consist of:

(a) Delegates elected by the members of component societies;

(b) Officers of the Association as hereinafter provided;

(c) Ex officio, with the right to vote, the District Councilors, and

(d) Ex officio, without the right to vote, the Past Presidents.

Section 2.—Representation

As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of two delegates.

Section 3.—Alternates

Alternates shall be elected, as specified in the By-Laws, in the same manner as delegates are elected. One alternate shall be seated in place of each delegate absent or disqualified for failure to attend meetings or other cause.

Section 4.—Terms of Delegates and Alternates

Delegates and alternates shall serve for two or three years as each component society may determine. One-half or one-third, as the case may be, of the allowed number shall be elected each year.

Section 5.—Quorum

A majority of the authorized number of delegates shall constitute a quorum.

Section 6.—Functions of the House of Delegates

The House of Delegates shall be the legislative body of the Association and shall exercise such other functions as the By-Laws may prescribe.

Section 7.—Issuance and Revocation of Charters

(a) The House of Delegates shall issue charters to medical societies of a county or combination of counties deemed eligible and which have made proper application therefor.

(b) The House of Delegates may suspend or revoke any such charter, after due notice and proper hearing, for cause. "Cause" shall be considered to be any conduct or action, on the part of any component society, deemed in contravention of the Constitution and By-Laws of the Association or the American Medical Association or their "Principles of Medical Ethics." "Cause" shall further be deemed to be any conduct or action of a component society deemed inimical to the best interests of the Association.

(c) It may act on the withdrawal or secession of any component society from the Association and take such measures as are deemed advisable and proper for reinstatement of any component society which may have withdrawn or had its charter suspended or revoked.

(d) A two-thirds affirmative vote of the delegates present and voting shall be necessary for any action under the provisions of this section.

Section 8.—Sessions of the House of Delegates

In each year there shall be one or more sessions of the House of Delegates as fixed in the By-Laws. Special sessions may be called and held as provided in the By-Laws.

Part B.—Council

Section 9.—Composition

The Council shall consist of:

(a) Eleven District Councilors elected from the councilor districts specified in this Constitution; and

(b) Six Councilors-at-Large elected by the House of Delegates, and

(c) The President, President-Elect, and Speaker.

In addition, the Secretary-Treasurer and Editor, ex officio, but without the right to vote.

Section 10.—Councilor Districts

There are eleven districts as follows:

District Number One, comprising San Diego County.

District Number Two, comprising Imperial, Orange, Riverside, San Bernardino, Mono and Inyo counties.

District Number Three, comprising the County of Los Angeles.

District Number Four, comprising the County of Los Angeles.

District Number Five, comprising Ventura, Santa Barbara and San Luis Obispo counties.

District Number Six, comprising Kern, Kings, Tulare, Fresno, Madera, Merced, Mariposa, Stanislaus, San Joaquin, Calaveras and Tuolumne counties.

District Number Seven, comprising Monterey, San Benito, Santa Cruz, Santa Clara and San Mateo counties.

District Number Eight, comprising San Francisco County.

District Number Nine, comprising Alameda County and Contra Costa County.

District Number Ten, comprising Marin, Solano, Napa, Sonoma, Lake, Mendocino, Humboldt and Del Norte counties.

District Number Eleven, comprising Sacramento, Amador, Alpine, Eldorado, Placer, Nevada, Sierra, Yuba, Sutter, Yolo, Colusa, Glenn, Butte, Plumas, Tehama, Trinity, Shasta, Lassen, Modoc and Siskiyou counties.

Section 11.—Election of Councilors

(a) District Councilors shall be elected by vote of the delegates from each district in the manner and at the time specified in the by-laws; provided, however, that at the first meeting of the House of Delegates after a district councilor has been selected, his name shall be submitted to the House by the delegates from the district, and (1) if there is no challenge by any delegate then the speaker shall declare his election completed, and (2) if any delegate shall challenge the election on any ground, including fitness of the nominee of the district to serve as a district councilor, the questions presented by the challenge shall be submitted to a Qualifications Committee consisting of the President, President-Elect and one delegate, appointed by the speaker, from the councilor district involved. The Qualifications Committee shall consider all grounds upon which the nominee is challenged and report back to the House. If the committee reports in favor of confirming the nominee's election, the speaker shall declare him elected. If the committee reports against confirming the nominee's election, a three-fourths affirmative vote shall be necessary to sustain the report of the committee, in which event the nominee

shall be ineligible to serve as the district councilor and the delegates from the district shall immediately proceed to the selection of another nominee for the vacant office. If an adverse report of the Qualifications Committee is not sustained then the nominee shall be declared elected by the speaker.

(b) Councilors-at-Large shall be elected one by one from nominations made on the floor of the House of Delegates. Not more than two councilors-at-large shall be elected from any one councilor district.

Section 12.—Councilors: Terms of Office

Councilors shall serve for terms of three (3) years; one-third to be elected in each year.

Section 13.—Council: Powers and Duties

Subject to the provisions of this Constitution, and all resolutions and enactments of the House of Delegates, the Council shall be vested with full and complete power and authority to manage, control, use, invest, reinvest, lease, make contracts in respect of, and concerning, convey, give, grant, transfer or otherwise dispose of all property and assets of whatever kind or nature owned by the Association, and shall also be vested with full and complete power and authority to do and perform all acts and to transact all business for and on behalf of the Association and to manage and conduct all the work and activities of the Association in carrying out the purposes thereof. The Council shall have such additional duties, powers and functions as are prescribed in the By-Laws.

Section 14.—Election of Councilors on Adoption of this Constitution

Upon the adoption of this Constitution, the delegates from each of the eleven councilor districts shall proceed to elect district councilors as follows: At the annual meeting at which this Constitution is adopted the councilors of the First, Fourth, Seventh and Tenth districts shall be elected for terms of one year each; councilors of the Second, Fifth, Eighth and Eleventh districts shall be elected for terms of two years each; and councilors of the Third, Sixth and Ninth districts shall be elected for terms of three years each. Thereafter, as each term expires the delegates from each district shall elect a district councilor to serve for a term of three years.

Upon the adoption of this Constitution, the councilors-at-large holding office at the time of the adoption shall serve the remainder of their terms of office specified in the previous Constitution and as their terms expire successors shall be elected in the manner and for the terms provided in this Constitution.

Upon the adoption of this Constitution and the election of eleven district councilors the terms of office of the nine district councilors elected prior to the adoption of this Constitution will immediately cease and terminate.

ARTICLE IV.—FUNDS, PROPERTY, DUES, ASSESSMENTS AND EXPENDITURES

Section 1.—Annual Dues

At each regular session the House of Delegates shall, by a majority vote, fix the annual dues to be paid by members of the Association for the ensuing calendar year. Dues payable by active members shall be uniform and equal, except that the House of Delegates may reduce dues for certain groups (by general classification) as the By-Laws may expressly permit.

Dues payable by associate members shall be uniform and equal but may be set at not less than one half the regular dues for active members.

Section 2.—Military Service

During any period at which the United States is at war or requires services of doctors of medicine under an universal military training or draft program, annual dues may be reduced or waived by the House of Delegates with respect to those members serving in the Armed Forces of the United States during the whole or any part of any year.

Section 3.—Leaves of Absence

The Council, on recommendation of a component society, may grant leaves of absence to active members who are seriously ill and cannot practice or who leave practice temporarily for postgraduate study or other purposes acceptable to the component society and the Council and during such leave a uniform reduction of dues shall be established by the Council; provided no leave may exceed one year but shall be subject to renewal.

Section 4.—Special Assessments, etc.

Funds may also be raised by any of the following methods: (a) publications of the Association; (b) voluntary contributions; (c) bequests, legacies, devises, and gifts; (d) special assessments levied by the House of Delegates; and (e) in any other manner approved by the House of Delegates. In the event that the House of Delegates levies any special or other assessment than the annual assessment of dues, it may, in the resolution levying the assessment, fix and determine the time within which such assessment must be paid, the class or classes of members of the Association upon whom it is levied, and the penalty, if any, including forfeiture or suspension of membership in this Association or the component society, or both, to result from nonpayment thereof within the time prescribed.

Section 5.—Annual Budget and Expenditures

At each regular session of the House of Delegates, the Council shall submit to it an itemized budget stating the proposed expenditures of the Association for the ensuing year. The budget may be altered or revised by the House of Delegates, but must be adopted by the House before adjournment of the session. After its adoption, no expenditures in ex-

cess of the amount of the budget item covering the subject of such expenditures may be made in the year covered by the budget by the Association or any of its officers, agents or employees, unless the Council by a three-fourths vote of all voting members shall first approve such excess expenditure by resolution duly adopted. Recurring items in the budget (fixed expenditures covering more than one year) shall, when first adopted, be binding as to subsequent budgets to the extent of commitments or obligations entered into by the Association within authority granted by the House of Delegates or this Constitution or the By-Laws.

Section 6.—Benevolence Fund

At least $1.00 out of the annual dues paid by each active member of the Association shall be allocated to the Physicians' Benevolence Fund and shall only be used for the purposes as set forth in the By-Laws.

Section 7.—All Funds and Moneys to Be Paid to Secretary-Treasurer and Deposited With Depositary

All funds and moneys received for the Association by any officer or agent thereof shall be promptly paid to the Secretary-Treasurer and by him deposited with a depositary selected as such by the Council.

All depositaries selected by the Council shall be banks or trust companies duly licensed to transact business as such in the State of California.

Section 8.—Membership Interest in Association Property

No person other than an active member in good standing shall have any interest in the property of the Association and the interest of any active member therein shall cease when he ceases to be a member of the Association.

If any active member shall resign or otherwise cease to be an active member of the Association, all of his interest in and to all property of the Association shall cease and such cessation of membership shall operate as a release and assignment to the Association of all the right, title and interest of such member in and to all the property of the Association.

ARTICLE V.—REFERENDUM AND PETITION

Section 1.—Referendum and Petition

The right of referendum and petition shall be as set forth in the By-Laws.

ARTICLE VI.—OFFICERS

Section 1.—Officers

The officers of this Association shall be a President, a President-Elect, a Secretary-Treasurer, a Speaker of the House of Delegates, a Vice-Speaker of the House of Delegates and an Editor.

Section 2.—Powers and Duties of the President-Elect

The President-Elect shall act for the President in his absence or disability, and if the office of President becomes vacant the President-Elect shall then succeed to the Presidency to serve as President for such unexpired term and for the term of one year thereafter.

ARTICLE VII.—SCIENTIFIC ASSEMBLY

Section 1.—Objects

The Scientific Assembly of the California Medical Association is the convocation of its members for the presentation and discussion of subjects pertaining to the science and art of medicine.

Section 2.—Sections

The Scientific Assembly shall be divided into sections, each section representing that branch of medicine described in its title.

Section 3.—Creation of New Sections

New sections may be created or existing sections discontinued by the House of Delegates. The Scientific Assembly and its sections shall be conducted in accordance with the provisions of this Constitution and the By-Laws, and such other instructions by the House of Delegates or the Council as may not be in conflict therewith.

ARTICLE VIII.—MISCELLANEOUS

Section 1.—Incorporation

(a) To aid in carrying out the objects of the Association, the House of Delegates at any meeting of any regular or special session thereof may by a two-thirds vote of the members thereof present and acting, authorize, empower and direct the Council to cause the formation and organization of a non-profit corporation under the laws of the State of California, without capital stock, with such incorporators, name, purposes, objects, principal place of business, term, number of directors and directors to serve for the first year and until their successors are elected and have accepted office, and with such provisions regarding the voting power and property rights and interests of the members of the corporation and such further provisions in the Articles of Incorporation thereof, and with By-Laws and composed of such members representing this Association as the Council shall prescribe, fix and determine. The House of Delegates may at its option in connection with the granting and giving of such authority, power and direction to the Council, prescribe, fix and determine any or all of such matters pertaining to the said corporation, its Articles of Incorporation and any provision thereof, By-Laws and membership, and its action thereon shall bind the Council; and the House of Delegates at any meeting of any regular or special session thereof may by a two-thirds vote of the members thereof present and acting, authorize, empower and direct the Council to grant, assign, transfer, convey and deliver, or cause to be granted, assigned, transferred, conveyed and delivered to the said corporation upon the formation thereof without any consideration therefor, any property, real or personal, of the Association, which authorization, power and direction may be given prior or subsequent to the formation and organization of said corporation.

(b) To further aid in carrying out the objects of the Association, the House of Delegates at any meeting at any regular or special session thereof may, by a two-thirds vote of the membership thereof present and acting, authorize, empower and direct the Council to cause the formation and organization of one or more corporations under the laws of the State of California with such incorporators, name, purposes, county where the principal office for the transaction of business is to be located, first directors, the total number of shares, the aggregate par value, if any, of all shares, classes of shares, par value of any shares having par value, statement of the provisions, privileges and restrictions granted or imposed upon the respective classes of shares, or if the corporation be formed without capital stock the authorized number and qualifications of its voting and other rights of each class of members and the liability of each and all classes, to dues or assessments, and with such further provisions in the articles of incorporation thereof and with such by-laws as the Council shall prescribe, fix and determine; and the House of Delegates at any meeting of any regular or special session thereof may, by a vote of two-thirds of the members thereof present and acting, authorize, empower and direct the Council to grant, assign, transfer, convey or deliver or cause to be granted, assigned, transferred, conveyed or delivered to any of such corporations upon the formation thereof or to applicants for health and accident or other insurance in or from any of said corporations at or prior to the formation thereof without any consideration therefor, such funds and property, real or personal, of this Association as the House of Delegates shall from time to time authorize or ratify.

Section 2.—Seal

The Association shall have an Association seal consisting of a circle having on the circumference the words "California Medical Association, Eureka, 1856," with such further emblems, figures and words as the House of Delegates, on recommendation from the Council, shall prescribe.

The power to change the seal shall rest with the House of Delegates.

Section 3.—Amendments

Any member of the House of Delegates at any meeting of any session, other than a special session, thereof may present an amendment or amendments to any article or articles or any section or sections of any article or articles of this Constitution.

Such proposed amendment or amendments shall be in writing and shall be filed with the Secretary and shall thereafter be published at least twice in separate issues of the official journal of this Association prior to the next session of the House of Delegates.

At the said next session, other than a special session, of the House of Delegates, such proposed amendment or amendments shall be submitted to the House of Delegates, for consideration at any meeting of the House of Delegates during that session, and if two-thirds of the Delegates present and voting vote in favor thereof, the same shall be adopted.

Section 4.—Repeal of All Provisions of Existing Constitution

All articles and all sections and all parts of all articles of the existing Constitution are hereby repealed.

* * *

PROPOSED CONSTITUTIONAL AMENDMENTS

Printed herewith for the second time are two proposed amendments to the Constitution which was introduced in the 1950 House of Delegates. These amendments were offered separately from the proposed new Constitution introduced by Reference Committee No. 3.

Resolved, That Section 4 of Article IV of the constitution of this association, is hereby amended to read as follows:

Section 4, Special assessments, etc.

Funds may be raised by any of the following methods: (a) publications of the association; (b) voluntary contributions, (c) bequests, legacies, devises and gifts, (d) special assessments levied by the house and (e) in any other manner approved by the house. In the event that the house levies any special assessment or other assessment than the annual dues, it may, in the resolution levying the assessment, fix and determine the time within which such assessment may be paid and the class or classes of members upon whom it is levied.

The penalty for failure to pay such assessment shall be levied by the local society.

* * *

Resolved, That Section 9, Part B of Article III of the revised constitution of this association be amended as follows:

"Section 9, Composition.

"The council shall consists of:

"(a) Sixteen district councilors elected from the councilor districts specified in this constitution; and

"(b) Four councilors-at-large elected by the house of delegates, and

"(c) The president, president-elect, and speaker.

"In addition, the secretary-treasurer and editor, ex officio, but without the right to vote."

And that Section 10, Part B of Article III be amended as follows:

"Section 10, Councilor districts.

"(a) The state shall be divided into sixteen councilor districts according to economic and geographic lines. This division is to be effected by the council.

"(b) The state shall be reapportioned at least every five years or oftener if needed by the council.

"(c) The geographical areas of each councilor district and the number of the district shall be as stated in these by-laws."

PROPOSED AMENDMENT TO EXISTING CONSTITUTION

Be It Resolved, That Article VII, Section 1, of the Constitution of the California Medical Association be amended to read as follows:

ARTICLE VII.—COUNCIL AND EXECUTIVE COMMITTEE

Section 1.—The Council

The Council shall consist of the Councilors and ex officio: The President, the President-Elect, and the Speaker of the House of Delegates, each with all the rights of a Councilor.

Subject to the provisions herein, the Secretary-Treasurer and the Editor shall also be ex officio members of the Council, but without the right to vote.

The nine district Councilors shall be elected as follows:

In the interim between the first and second meetings of the House of Delegates at any annual session, the delegates from each Councilor district for which a councilorship is about to become vacant shall meet and elect a Councilor from that district. In the event that a majority of the delegates from any district are unable to agree upon a Councilor, the House of Delegates at its second meeting, shall elect a Councilor from that district. Those councilorships-at-large which are assigned to specified counties by reason of the size of their membership shall in similar manner be elected by the delegates from such specified counties. All nominees for councilorships must be members in good standing.

Unassigned Councilors-at-Large shall be elected by the House of Delegates. Not more than two Councilors-at-Large shall be elected from any one Councilor district; provided, however, that when any one Councilor district shall consist of a component county society having 1,500 or more members, two of the Councilors-at-Large shall be elected from its membership.

Any chapters, sections or paragraphs of the Constitution or By-Laws which are in conflict with this amendment are hereby repealed.

Proposed C.M.A. By-Laws

The following proposed by-laws represent essentially a set of by-laws prepared for submittal to the 1950 House of Delegates in the event the proposed C.M.A. Constitution then before that body were adopted. Inasmuch as the proposed Constitution was not adopted at that time, the original of these By-Laws was not presented to the House of Delegates for official action.

It should be borne in mind that until and unless a new Constitution is adopted by the House of Delegates, new By-Laws in codified form are meaningless. With a new Constitution, if voted, a new set of By-Laws becomes essential. Reference Committee No. 3 considered the original draft of these By-Laws at the time of the 1950 Annual Session. The draft printed here contains several changes from the original form, inserted to make this document completely in key with the proposed Constitution which is now lying on the table of the House of Delegates and which is printed above.

BY-LAWS

CHAPTER I.—COMPONENT SOCIETIES

Section 1.—Component Society Charters

The charter of each component society shall provide that all the provisions of the Constitution and By-Laws of this Association in force at the time of the issuance of such charter, together with all amendments to either thereof thereafter adopted, in so far as the same are applicable, shall be an integral part of the constitution and by-laws of the component society to which the charter is issued and that the terms and provisions thereof shall control and govern such component society, the officers and members thereof, and that the constitution and by-laws of the component society shall not be amended in any way to conflict or be inconsistent with the Constitution and By-Laws of this Association. Each charter shall be signed by the President and the Secretary-Treasurer of this Association.

Section 2.—Revocation of Component Society Charters

The charter of a component society may be suspended or revoked on any of the grounds specified in the Constitution only in accordance with the following procedure:

(a) *Complaint.* A written complaint, stating the grounds for action, shall be filed with the Secretary-Treasurer by the Chairman of the Council pursuant to resolution adopted by the Council by the affirmative vote of two-thirds of the members thereof.

(b) *Notice.* The Secretary-Treasurer of the Association shall, within thirty days of its receipt by him, send by registered mail to the secretary of the component society concerned, a true copy of such complaint.

(c) *Hearing.* Hearing on such complaint shall be held by the House of Delegates at a meeting of its first session occurring not sooner than three nor more than ten months after the date of its presentation to the Secretary-Treasurer of the Association.

(d) *Decision.* Suspension or revocation of the charter of a component society shall require a two-thirds affirmative vote of the members of the House of Delegates; provided, however, that the delegates of the component society concerned shall not vote, and their number shall not be counted in determining the necessary two-thirds majority.

Section 3.—Component Society Sections

(a) *Geographical or Specialty Sections.* A component society may authorize the formation and existence of branch geographical or specialty sections for scientific investigation and work only, and the members of such geographical sections or specialty sections must be members of such component society.

(b) *Members in Sections to Be Members of Respective Component Societies.* No geographical or specialty section shall be permitted to have any classes of members which classes in whole or in part include non-members of the component society of which any such geographical or specialty section is a branch or subdivision; provided that nothing in this section shall be construed as limiting the guest privileges of such non-members at meetings of such section.

CHAPTER II.—MEMBERSHIP

Section 1.—What Constitutes Membership

The name of a doctor of medicine on the official roster of this Association, after it has been properly reported by the secretary of his component society, and after the dues or other assessments due this Association shall have been paid by the component society for each such member according to the class of membership held by each component society member, shall be prima facie evidence of membership.

Section 2.—Component Society Rosters of Members; Reports

(a) *Roster.* The secretary of each component society shall keep a roster of its members, on which shall be shown the full name, address, school and date of graduation, date of license to practice in this state, class of membership, and such other information as the Secretary-Treasurer of the Association shall prescribe.

(b) *Reports.* The secretary of each component society shall furnish the Secretary-Treasurer of the Association before the first day of March of each year a list of names and addresses of all members in good standing on the first day of January of each year, shall notify in writing the Secretary-Treasurer monthly of all changes in membership of the component society, and shall submit to the Secretary-Treasurer on forms which the Association shall provide, notice of each application for membership in such component county society with the name, address and all other particulars regarding the applicant known to the secretary.

Section 3.—Qualifications of Active, Associate and Affiliate Members

(a) *Component Societies Sole Judges.* Each component society shall, subject to the minimum requirements for eligibility as hereinbelow provided, determine the qualifications for membership for Active, Associate or Affiliate membership therein, and shall be the sole judge of the qualifications of applicants for such membership.

(b) *Qualifications for Active Members.* To be eligible for election to Active membership in a component society, an applicant must hold the degree of Doctor of Medicine issued to him by an institution of learning accredited at the time of the issuance of such degree by the Board of Medical Examiners of the State of California. He must hold an unrevoked license to practice medicine and surgery issued to him by the Board of Medical Examiners of the State of California, which certificate must have been recorded in the office of the County Clerk in the county in which he practices. He must be of good moral and professional character and must not support, nor practice, nor claim to practice, any exclusive or sectarian system of medicine. He must subscribe to the Principles of Medical Ethics of the American Medical Association and to such as may from time to time be adopted by the California Medical Association, and shall recognize the authorized officers of his component society and of this Association as the proper authority to interpret any doubtful points of ethics.

(c) *Qualifications for Associate Members.* To be eligible for election to Associate membership in a component society, an applicant must possess all the qualifications necessary for active membership except that he shall not be engaged in the private practice of medicine and need not hold a license to practice medicine or surgery granted by the Board of Medical Examiners. For the purposes of this section, a Doctor of Medicine engaged in the private practice of medicine is any physician who receives his principal compensation for professional services on a fee basis.

(d) *Qualifications for Affiliate Members.* To be eligible for election to affiliate membership in a component society, an applicant must be, and must continue to be throughout the term of his membership, an intern, resident or house officer in an approved hospital within the county of the component society concerned.

Section 4.—Qualifications and Election of Other Classes of Membership

(a) *Retired Members.* The Council, on recommendation of any component society, may grant retired membership to those active members who have ceased the practice of medicine to the extent and for reasons satisfactory to such component society and the Council, and who shall have been active members of the Association for a total of ten years prior thereto. Retired membership shall endure as long as the retired member does not engage in full time practice of medicine; but in the event that a member classified as retired resumes active, full time practice of medicine such resumption shall automatically terminate retired membership and reestablish active membership. Upon resumption of full time practice by any retired member, the secretary of his component society shall transfer such member from the retired classification to the active classification, and notify the Secretary of this Association, who shall do likewise with respect to the membership rolls of this Association.

(b) *Honorary Members.* The House of Delegates on recommendation by the Council may elect as honorary members any persons distinguished for their services or attainments as doctors of medicine or in the field of public health, or for research or other scientific work contributing to medicine.

(c) *Life Members.* Those life members elected prior to the adoption of these By-Laws shall remain as such with all of the rights and privileges pertaining to such membership contained in the prior By-Laws, but no new life members shall be elected after the date of the annual session of the House of Delegates at which this section is adopted.

(d) *Special Memberships.* The House of Delegates may, from time to time, establish special and limited classes of membership in this Association for undergraduate medical students, or for interns, house officers, or residents wherever a component society makes no provision for this class of membership. The House of Delegates may also, from time to time, establish other special and limited classes of membership and fix the dues, qualifications, duration and privileges of such membership.

Section 5.—Rights and Privileges of Membership

(a) *Active Members.* Subject to the provisions of the Constitution and these By-Laws, all active members shall be equally privileged to vote, to hold office and to enjoy all other rights and privileges of the Association.

(b) *Associate Members.* Subject to the provisions of the Constitution and these By-Laws, associate members shall have all the rights and privileges of Active Members except the right to vote or to hold office.

(c) *Affiliate, Honorary and Retired Members.* Members in these classes shall be privileged to receive publications of the Association at such rates as the Council may from time to time determine; they shall not have the right to vote nor to hold office.

Section 6.—Membership Where No Component Society Exists

Any Doctor of Medicine residing in an area in which there is no component society may apply for membership in the component society most convenient to the area in which he practices medicine, and if otherwise qualified he may be elected to membership therein.

Section 7.—Membership Where Major Office and Residence Are In Different Component Society Areas

A Doctor of Medicine may apply for membership only to that component society whose charter covers the area in which his major office for professional practice is located; provided that a Doctor of Medicine who resides in one county and practices in another may apply for membership to the component society whose charter covers the area in which his residence is located, if both such component society and the component society of the area in which his major office is located approve.

Section 8.—Membership as Affected by Transfer of Location of Office

A member who changes his office from the county through whose component county society he holds membership in this Association, to another county in which there is a component society, is eligible to membership in the component society of his new location on the presentation of a transfer card, and satisfactory evidence that his dues have been paid in full in the component society in which he holds membership; provided, however, that no evidence which would disqualify him for membership exists.

He shall forfeit his membership in this Association one year after such change of location of practice unless after proper application he is elected to membership in the society of the county to which he has moved.

Section 9.—Transfer Cards

When a member in good standing in a component society moves to another county or other jurisdiction in this state he shall, on request, be given a transfer card, without cost. He must assume such financial obligations as shall be deemed proper by the component society to which he is transferred, and to which he makes application for membership by transfer.

Section 10.—Termination of Membership

(a) *By Expulsion from Component Societies.* Expulsion from any component society, after due proceedings in accordance with these By-Laws, upon becoming final terminates all the rights and privileges in this Association of the member so expelled.

(b) *By Failure to Pay Dues.* If the annual assessments of dues, payable to this Association or to the American Medical Association by any member of this Association, are not paid in full on or before April 1 of any year, such member shall automatically lose his membership in this Association as of April 1 of such year. The Council of this Association, in its discretion, upon payment of such unpaid dues, and any other assessments or dues accruing thereafter, may at any time reinstate such member.

(c) *By Revocation of Physician and Surgeon's Certificate.* Any member whose license to practice medicine and surgery in the State of California is revoked shall, upon receipt of written evidence of such revocation by the Secretary of this Association, thereupon cease to be a member of this Association.

(d) *Acts and Conduct Subjecting Member to Censure, Suspension or Expulsion by Component Society.* Any member of a component society who has been adjudged guilty of a criminal offense involving moral turpitude, or who has been duly adjudged guilty by his component society, in accordance with the procedural requirements of these By-Laws, of gross misconduct as a physician or a surgeon or of a violation of any of the provisions of the constitution or by-laws or principles of professional conduct of his society or of the Principles of Medical Ethics promulgated from time to time by this Association or by the American Medical Asso-

ciation, shall be subject to censure, suspension or expulsion from his society by such component society.

CHAPTER III.—DISCIPLINARY PROCEDURE

Section 1.—Disciplinary Procedure for Component Societies

The procedure to be followed by each component society with respect to the censure, suspension or expulsion of a member shall be:

(1) *Charges; Formal Requirements; a Formal Charge Must First Be Made.* Such charge must be in writing, signed by the accuser, and if made by a person other than a member of the society must be sworn to before an officer of the State of California authorized to administer oaths. Charges must state the acts or conduct complained of with reasonable particularity.

(2) *Charges; Filing; Secretary's Duties; Presentation to Board of Directors (or Grievance Committee).* Charges must be filed with the secretary of the accused member's component society. At the first regular or special meeting of the Board of Directors (or other governing body, whether called Council, Board of Trustees, Executive Committee, or any other name, all of which are herein included in the term "Board of Directors") of such component society held after charges are filed, the secretary must present said charges to the Board. The Board of Directors shall then or at any adjournment of said meeting, but not more than thirty days after the date of such regular or special meeting, consider the charges, and in its discretion determine whether or not further proceedings shall be conducted. If the Board determines that no further action shall be taken, the charges shall be dismissed.

If a component society has no board of directors and more than ten members, its members must, at a regular meeting of the society, elect a grievance committee of not less than five (5) active members in good standing; two members shall be designated by the society to serve for a period of one year, two members shall be designated to serve for a period of two years, and one member shall be designated to serve for a period of three years. At the expiration of the terms of office of the respective members of such committee, successors shall be elected in like manner to serve for a period of three years each. Such grievance committee shall exercise all the power and perform all the duties herein conferred upon boards of directors in the manner and within the times herein provided. If a society has less than eleven members, the entire society, exclusive of the accuser and accused, shall constitute the grievance committee. All references herein to board of directors shall be deemed to include such grievance committees, and component societies of ten members or less.

(3) *Service of Charge Upon Accused.* If the Board of Directors determines that further action, with respect to said charges, shall be taken, the Board must, within fifteen (15) days after such decision, cause a copy of the charges to be served upon the accused by personally delivering a copy thereof to him, or by depositing a copy thereof in the United States mail, registered and addressed to the accused either at his last known office or at his last known residence.

(4) *Time and Place for Hearing; Service of Notice Thereof.* The Board of Directors shall, at said meeting at which its decision to proceed is made, fix a time and place for a hearing of said charges. Written notice of the time and place set for the hearing shall be served upon the accused within fifteen (15) days by personal delivery or registered mail as aforesaid.

The time so set for a hearing shall be not less than fifteen (15) days after the accused has been served as aforesaid, with a copy of the charges and with the notice of the time and place set for the hearing; said hearing must be held within the county in which the accused holds his county society membership. The hearing before the Board of Directors must actually commence within six months from the date of the filing of written charges. Failure to comply with this requirement shall constitute an automatic dismissal of the charges.

(5) *Right of Accused to Answer; Time to Answer; Formal Requirements.* The accused may, not less than five (5) days before the time set for a hearing, answer said charges. The answer shall be in writing and the original and three copies shall be filed with the secretary of the society; provided, however, that the failure of the accused to answer shall not be deemed to be an admission of the truth of the charges or a waiver of the accused's right to a hearing with respect to said charges.

(6) *Rules Governing Hearing; Duties of Referee of Society; Advice as to Procedure Only.* The Board of Directors shall give ample opportunity both to the accuser and the accused to be heard in person, and to present all testimony, evidence, or proofs which the accuser or the accused may deem necessary, provided that the Board may reject all testimony, evidence, or proofs, which in the judgment of the Board are immaterial, irrelevant or unnecessarily repetitious.

Either the Council or the Executive Committee of the California Medical Association, whenever it shall come to the attention of either thereof that a disciplinary proceeding is pending before any component society, may of its own motion, and shall, upon the request of such component society or of the member or members thereof the subject of any such disciplinary proceeding, appoint a referee who may, but need not be, a member of the California Medical Association, and shall cause the Secretary of the California Medical Association to notify the secretary of such component society of such appointment. The referee so appointed shall preside at the hearing of said charges and shall make all decisions concerning the admission or rejection of testimony or other evidence and procedure. The referee shall not, however, have any voice nor participate in any manner in the determination by the Board of Directors of the disposition of the charges. During the hearing the referee shall perform all duties normally per-

formed by the presiding officer of the Board of Directors.

(7) *Record of Proceedings; Shorthand Reporter; Duty of Secretary to Preserve Board Records; Right of Accused to Copy.* The secretary shall preserve the original of said charges with a certificate of personal delivery or of mailing of a copy or copies thereof, as the case may be, the original notice of the time and place set for the hearing with a certificate of personal delivery or of mailing of a copy or copies thereof, as the case may be, and the original of the answer filed by any member accused if an answer be filed. At the hearing, the Board of Directors shall, at the expense of the society, employ a competent shorthand reporter to record and transcribe into typewriting testimony adduced on behalf of the accuser and the accused and all rulings made. The original charges with certificate of service thereof, the original notice of time and place for hearing with certificate of service thereof, the answer or answers, if any be filed, all documentary evidence introduced at the hearing, the typewritten transcript of the testimony and the written decision of the Board of Directors shall constitute the record of the entire proceedings. The Secretary shall, upon receipt from accused of a sum sufficient to defray the cost thereof, cause a copy or copies of such record to be transcribed, certified and furnished to the accused.

(8) *Decision of Board; When Must Be Written; Rules Governing Vote of Board.* The Board of Directors, after having given the accuser and the accused member full opportunity to be heard, shall conclude the hearing and shall render its decision in writing not more than thirty (30) days thereafter. Hearing shall include any oral arguments and the filing and consideration of any written briefs. The Board of Directors by a two-thirds affirmative vote of all the eligible members of the Board present and voting may exonerate or may censure, suspend or expel the accused member as the facts in its opinion may justify.

The decision of the Board of Directors may be expressed in resolution adopted by said vote. The decision may, but need not, contain an opinion and need only be signed by the secretary or the acting secretary of the component society.

The failure of at least two-thirds of all the members of the Board of Directors present and voting to agree upon the disposition of the charges shall act automatically as a dismissal of the same. No member of the Board of Directors not present at the said hearings for the entire time thereof shall be entitled to vote with respect to the disposition of the charges.

(9) *Suspension; Maximum Period; Status of Suspended Member.* If the Board of Directors shall determine to suspend an accused member, the term of such suspension shall be within the discretion of the Board, provided that in no case shall a member be suspended for a period greater than one year. A suspended member shall have no rights or privileges in the society, provided that at the expiration of the period of suspension such suspended member shall not be reinstated to membership in good standing until he applies for reinstatement and pays all dues accrued during said period of suspension.

(10) *(a) Board's Decision; Secretary to Send Copies.* Within ten (10) days after the decision of the Board of Directors, the secretary of the society shall transmit a copy of the decision to the Board, to the accused member or members and to the Secretary of this Association.

(b) Board's Decision Final; Subject to Appeal. The action of the Board of Directors of a component society shall be final, subject only to appeal to the Council of the California Medical Association in such cases as are provided in these By-Laws.

The decision of the Board of Directors shall not become effective until the expiration of ten days after time during which an appeal may be taken to the Council of this Association. Filing an appeal with the Secretary of this Association shall automatically stay the execution of the decision of the Board of Directors of the component society until written notice of the action of the Council of this Association with respect to appeal has been received by the secretary of the component society from which the appeal was taken.

(c) Technical Rules of Evidence Not to Govern Disciplinary Hearings. All hearings with respect to the disposition of charges against a member of a component society shall be held and conducted in such manner as to ascertain all the facts fairly to the accuser and accused, eliminating all formal or technical rules and requirements which ordinarily pertain to judicial proceedings.

(d) Members Agree That No Cause of Action Shall Accrue. Any person so charged, censured, suspended, or expelled shall have no claim or cause of action against this Association, a component society or any member, director, councilor or officer, thereof by reason of such charges, or the hearing or the consideration thereof or censure, suspension or expulsion therefor.

(e) Expelled Members; Right to Apply for Membership; When Accrues. Any person whose membership has been involuntarily terminated in a component society by reason of violation of these By-Laws may apply for membership after the expiration of one year from the date said membership was terminated, and such application shall be considered in the same manner as a new application for membership.

Section 2.—Procedure for Appeal to Council

A member of a component society censured, suspended or expelled by his county society may appeal from the action of such component society to the Council of this Association within the period of two months succeeding the date of such censure, suspension, or expulsion. Appeals shall be in writing and be filed within the said period of two months in the office of the Secretary of this Association. Said appeal shall be accompanied by a copy of the record of the entire proceedings before the component society duly certified by its secretary, provided the Chairman

of the Council may, in his discretion, extend the time of the appellant to file said record. Upon the filing of an appeal the secretary shall present it to the first subsequent meeting of the Executive Committee or the Council. Appeals shall be heard by the Council only after reasonable notice of not less than ten (10) days in writing of the time and place of the hearing of the appeal has been given to the appellant member and the president and secretary of the component society as provided in Section 4 hereof.

Section 3.—Rules Governing Appeals

In hearing appeals, the Council shall review all questions of procedure, and may, in its discretion, review the evidence contained in the record of the original proceedings held before the Board of Directors of the component society. The Council may make findings of fact contrary to, or in addition to, those made by said Board of Directors. Such findings may be based on the evidence adduced before said Board of Directors, either with or without the taking of evidence by the Council. The Council shall use any lawful means which in its judgment will best and most fairly present all the facts involved. The Council may, for the purpose of making such findings or for other purpose in the interest of justice, take additional evidence of or concerning facts material to the questions involved, or may, for such purpose, appoint a committee of its members or any notary public to act as referees or referee for the taking of such additional evidence.

Such referee or referees shall render a report in writing to the Council, which report shall contain a clear statement of the facts found by the referee or referees from the testimony or evidence adduced.

The Council may affirm, reverse or modify the decision of the Board of Directors or make such other disposition of the proceedings as it may deem proper.

In every case of an appeal the individual councilors and the Council, through a committee thereof, prior to any hearing being held upon the appeal, shall exert all proper efforts at conciliation and compromise.

This Association may be represented by its attorney to advise the Council upon procedural questions only.

The decision of the Council shall be final and bind the appellant member and the component society.

CHAPTER IV.—SESSIONS AND MEETINGS; SCIENTIFIC SECTIONS

Section 1.—Division of Scientific Work

(a) *Scientific Sections.* The scientific work of the Association shall be divided into fifteen scientific sections, as follows: General Medicine; General Surgery; Pediatrics; Eye, Ear, Nose and Throat; Urology; Anesthesiology; Obstetrics and Gynecology; Radiology; Industrial Medicine and Surgery; Pathology and Bacteriology; Dermatology and Syphilology; Neuropsychiatry; General Practice; Public Health; and Allergy.

(b) *Rules of Procedure of Scientific Sections.* Each scientific section shall adopt rules of procedure for its own better government and work. Its officers shall be responsible for the proper keeping of records of scientific and business meetings.

(c) *Officers of Sections.* The members of each section shall at the regular annual session of the Association elect a chairman and a secretary to serve for the term of one year.

(d) *Program.* Each of the sections shall present a scientific program at the annual session of the Association, and its officers shall be responsible for the proper preparation of the same, and for the proper cooperation with other scientific sections during the annual meeting.

Section 2.—Registration at Annual Sessions Necessary for Participation Therein

Each member in attendance at any session shall register, after his right to membership has been verified by reference to the records of this Association. No member shall take part in any of the proceedings of any session until he has complied with the provisions of this section of the By-Laws.

Section 3.—Addresses and Papers at Annual Session

(a) The program at Annual Sessions shall be divided between general meetings and section meetings as the Council shall deem appropriate.

(b) At the General Meetings shall be delivered the annual address of the President and, with the sanction of the Council, such other addresses and reports as may be deemed desirable.

(c) Excepting the President's address and such other addresses and reports as the Council may determine, no address or paper shall occupy more than twenty minutes in delivery.

(d) No member, except by unanimous consent, shall speak more than once in the discussion of any paper nor longer than five minutes at any one time. This subsection of the By-Laws shall be printed on all programs of general and section meetings.

Section 4.—Scientific Papers Property of Association

All papers read before this Association shall be its property.

Each paper, when it has been read, shall be deposited with the secretary of the section, by him to be promptly turned over to the Secretary of the Association.

Section 5.—Scientific Papers Not to Be Published Elsewhere

Authors of papers read before this Association shall not cause them to be published elsewhere except with the consent of the Committee on Publications.

Section 6.—Committee on Arrangements for Annual Session

(a) *Appointment and Duties.* The Chairman of the Council, subject to the approval of the Council, shall, at least six months before each annual session,

appoint a Committee on Arrangements for the sessions of the ensuing year, one member thereof being designated as the general chairman. This committee shall consist of five members.

The Secretary-Treasurer of the Association shall be ex officio a member of this committee.

This committee shall have charge of all local arrangements not otherwise provided for.

The terms of office of members of this committee shall expire when the succeeding committee on arrangements is appointed.

As the local Committee on Arrangements this committee shall provide suitable meeting places and shall have general charge of all local arrangements. The committee shall have power to appoint local advisory members and subcommittees to aid in its work.

(b) *Commercial Exhibits.* The Council shall decide what portion of the income from commercial exhibits or other convention services shall go to the local Committee on Arrangements. The location and rules for the commercial exhibits and other accessory annual session activities shall be subject to the approval of the Council.

(c) *Local Convention Expenses.* The Council shall decide what portion of the local expenses shall be borne by the Association.

(d) *Report on Committee on Arrangements.* The Committee on Arrangements shall make and file with the Secretary-Treasurer of the Association an itemized, detailed report of all its receipts and disbursements, and shall remit any moneys due the Association remaining in its possession, to the Secretary-Treasurer.

Section 7.—All Meetings of Same Session Shall Be in Same Locality

The general meetings of the Association, the meetings of the House of Delegates, and the meetings of the Scientific Assembly and its sections at any session shall be held in the State of California at the same locality and in buildings as convenient of access, one to the other, as may be possible.

CHAPTER V.—HOUSE OF DELEGATES

Section 1.—Secretaries of Component Societies To Furnish Lists of Delegates and Alternates: Election and Lists

Each component society shall elect a delegate and one alternate for such delegate in an aggregate number of delegates and alternates equal to the total number of delegates and alternates to which the component society is entitled. At least sixty days prior to the next scheduled session, the secretary of each component society shall forward to the Secretary-Treasurer of the Association, on forms provided by the Association, the names and addresses of each delegate and his alternate elected by such component society, and shall certify thereon the dates of election and expiration of terms of service of each delegate and his alternate.

Failure to conform to this provision shall constitute grounds for disqualification of the delegation in default for the scheduled session, at the discretion of the House of Delegates.

Section 2.—Representation

Commencing with the 1952 regular session of the House of Delegates, each component society shall be entitled to two delegates with one additional delegate for each one hundred active members, or fraction thereof, over and above its first one hundred active members, as of the first day of the preceding November.

Section 3.—Limitations on Seating of Delegates

Only duly elected delegates or their elected alternates may be seated at any session of the House of Delegates unless the Secretary of the Association has been given due notice of substitution at least fifteen (15) days in advance of the session.

Section 4.—Disqualification of Delegates or Alternates for Absence From a Session

Any delegate absent without good cause from two or more consecutive meetings of the House of Delegates, and who has failed to give fifteen days' notice to the Secretary of the Association of his inability to be present, shall thereupon be disqualified as a delegate and, in addition, ineligible for reelection as a delegate or alternate for three years immediately succeeding the expiration of his term; except that the Committee on Credentials may excuse absence on presentation of good cause therefor.

Section 5.—Notification of Delegates

The secretary of each component society promptly shall notify in writing each delegate and alternate immediately after his election to such office, and shall expressly direct each delegate's and alternate's attention to the provisions of Section 4 above.

Section 6.—Qualifications of Delegates and Alternates

At least three (3) years' active membership in good standing in the component society immediately preceding election shall be required for election as delegate or alternate.

Section 7.—Sessions and Meetings

(a) In each year there shall be two regular sessions of the House of Delegates; the time and place of such sessions to be determined by the Council as far as possible in advance and notice thereof published in the Journal of the Association. One of these sessions shall be held in the first six months of each calendar year and is designated the Annual Session; the other shall be held in the last six months of each calendar year and is designated the Interim Session.

(b) In addition to regular sessions, special meetings of the House of Delegates may be called at any regular or special meeting of the Council, by a two-thirds vote of all the members of the Council, or by written call stating the object of the meeting, filed with the Secretary in the office of the Association and signed by one-half or more of the members of the House of Delegates. Upon the filing of such call

with the Secretary, the Council shall within thirty (30) days thereafter fix the time and place for the holding of such special meeting and cause written notice thereof stating the object of the meeting to be sent by United States mail, postage fully prepaid, to each member of the House of Delegates, addressed to him at his office or place of residence, as shown by the records of the Secretary's office, at least fifteen (15) days prior to the date of the meeting.

(c) Resolutions and other new business may be introduced at either regular session, but shall not be acted upon until the next regular session; provided, however, that any resolution designated as an emergency measure may be acted upon at the session in which it is introduced, but shall require a two-thirds affirmative vote for adoption.

Section 8.—House of Delegates Committees

Prior to or at the commencement of each annual session the Speaker of the House shall appoint from the members thereof the following committees:

1. A Committee on Credentials,
2. A Reference Committee on Finance, to review the reports of the Secretary-Treasurer and Executive Secretary and to study and make recommendations to the House of Delegates on the budget submitted by the Council and the amount of dues for the ensuing year.
3. A Reference Committee on the reports of Officers, Council, Standing and Special Committees, and
4. Two or more Reference Committees on resolutions, amendments to the Constitution and By-Laws, and new and miscellaneous business (the Speaker may allocate amongst these committees all business properly referable to them).

Section 9.—Membership of Credentials and Reference Committee

Each of the aforesaid committees shall consist of three members, the chairman of each to be designated by the Speaker.

The Speaker, the House concurring, shall refer said reports, resolutions, and business to the respective Reference Committees, but may allocate among them any of said reports, resolutions or portions thereof, and other business, to avoid duplication and to expedite the business of the House of Delegates.

Each Reference Committee shall prepare a written report dealing with and making recommendations on all matters submitted to it. In those instances in which resolutions or other matters remain before a Reference Committee between meetings of the House of Delegates, copies of such resolutions or other matters and the recommendations of the committee thereon shall be mailed or delivered by the Secretary to each elected delegate and alternate at least thirty days (or if less than thirty days intervenes between meetings, as early as possible) prior to the meeting of the House of Delegates at which such resolutions or other matters and recommendations concerning them are to be considered. The report of each committee may be acted upon as a whole or section by section, as the House may determine.

Section 10.—Duties of Credentials Committee

The Secretary of the Association shall supply the Committee on Credentials with the necessary information concerning the membership of the House of Delegates.

The Secretary shall give this committee a list of component societies, showing the total membership as of November 1 of the preceding year. This committee shall ask each delegate and alternate to present his written credentials, but shall accept the official written list submitted by the secretary of any component society; provided that such written list be sent to the Secretary of the Association at least fifteen days before the beginning of the annual session.

The Committee shall make a written report to the House of Delegates of the delegates and alternates entitled to membership therein.

Section 11.—Special Committees of House of Delegates

The Speaker, the House of Delegates concurring, shall have the right to appoint special committees of the House for special work. All committees of the House of Delegates shall present their reports to the House of Delegates in writing.

CHAPTER VI.—COUNCIL

Section 1.—Council: Organization

At the first meeting of the Council held after the adjournment of the last meeting of the House of Delegates at the annual session of the Association, the Council shall organize by the election of one of the Councilors as Chairman of the Council, who shall serve as such up to the first Council meeting held after the adjournment of the last meeting of the House of Delegates of the next succeeding annual session of the Association; and a Vice-Chairman who shall hold office for the same term, and who, in the absence of the Chairman, shall perform the duties of the Chairman. The Secretary-Treasurer of the Association shall serve as the Secretary of the Council.

Section 2.—Registry

The Secretary-Treasurer, in writing, shall request each Councilor to register his address where he desires all notices to be sent to him by mail or telegram.

Section 3.—Order of Business

At meetings of the Council, business shall be transacted as the Council may determine from time to time by resolution.

The Council shall provide and fix the order of business of the House of Delegates at each session, provided that the House of Delegates may change the order of business by a majority vote.

Section 4.—Executive Committee of Council

The Executive Committee shall consist of the President, President-Elect, Chairman of the Council,

Chairman of the Auditing Committee, and one other member of the Council (elected by the Council at its organization meeting each year). The Secretary-Treasurer and Editor shall be members ex officio, but without the right to vote. The organization, duties and powers of the Executive Committee shall be as provided in the By-Laws.

Section 5.—Auditing Committee of Council

The Chairman of the Council, subject to its approval, shall appoint an auditing committee of three members, designating one of the members as its chairman.

The Auditing Committee shall inspect all bills and claims against the Association, and no bill or claim shall be paid except upon voucher or draft having the approval of at least two of the three members of the Auditing Committee; provided, however, that any bill or claim may be paid without the approval of any member of the Auditing Committee by a majority vote or written approval of a majority of all the members of the Executive Committee.

Section 6.—Duties of District Councilors

Each District Councilor shall be organizer, peacemaker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, of inquiring into the condition of the profession, and of maintaining touch with the activities of the component societies of his district. He shall in writing make an annual report of this work and of the condition of the profession of each county in his district to the Council, which shall take such action thereon as it may deem best.

Section 7.—Expenses of Councilors and Officers

Councilors and officers shall be allowed railroad fare or mileage not exceeding 5 cents a mile, plus an allowance for maintenance expense of ten dollars a day, while absent from their places of residence; (a) in attending Association, district or county society meetings; (b) meetings of committees of the Association; (c) authorized councilor or officer visits to county societies; (d) and otherwise when on official business, authorized or approved by the Council.

Section 8.—Mail Ballot

The Chairman of the Council, at any time, may direct the Secretary to submit any urgent matter or question to the members of the Council by mail ballot, the question or proposition being prepared through conference of the Secretary with Chairman of the Council and the Chairman of the Executive Committee; and the vote of two-thirds of the members upon such question by mail or telegraph shall be binding upon the Council.

Section 9.—Offices

The Council shall provide and secure such offices for the Association as may be required to conduct its activities and business properly.

Section 10. — Employment of Secretary-Treasurer, Assistant Secretaries, Editor and Associate Editors

The Council shall employ a Secretary-Treasurer and an Editor, and, in its discretion, one or more Assistant Secretaries or Associate Editors. The terms of their employment shall be such as are satisfactory to the Council, provided, however, that no contract of employment shall, by its terms, exceed a period of three (3) years from the date of the organization meeting at which such contract is authorized.

Section 11.—Qualifications of Secretary-Treasurer and Editor

No person shall be eligible to the office of Secretary-Treasurer or Editor or Associate Editor who does not hold the degree of Doctor of Medicine, but membership in this Association shall not be a necessary qualification for the offices of Secretary-Treasurer, Editor or Associate Editor.

Section 12.—Executive or Field Secretaries or Representatives

The Council may employ one or more Executive or Field Secretaries or representatives, who need not be physicians or members of the Association. The duties of such a representative or representatives, if appointed, shall be determined by the Council by resolution.

Section 13.—Legal Counsel

The Council at its annual organization meeting shall appoint one or more legal advisers, giving each such title as may be deemed proper. It shall fix the amount of retainer and other fees.

The Council shall have the right to request the attendance of Counsel of the Association at any meetings at which it might desire his presence and advice, and at such meetings he shall call attention to matters in which the legal aspects may be of importance, and shall give such other opinions in special matters as may be requested of him by the Council.

The General Counsel shall present in writing as promptly as the same may be properly prepared, such legal opinions as may be requested by the House of Delegates, the Council or the Executive Committee.

CHAPTER VII.—COMMITTEES

Section 1.—Standing Committees

The standing committees of this Association shall be as follows:

(a) Scientific Work
(b) Public Policy and Legislation
(c) Medical Defense
(d) Medical Education and Medical Institutions
(e) Hospitals, Dispensaries, and Clinics
(f) Medical Economics
(g) Associated Societies and Technical Groups
(h) History and Obituaries
(i) Industrial Practice
(j) Postgraduate Activities

(k) Public Relations
(l) Physicians' Benevolence Committee
(m) The Reference Committees of the House of Delegates

until final adjournment of each regular session.

Section 2.—Standing Committees; How Elected; Term of Office

Unless otherwise provided in these By-Laws, each of the standing committees (except House of Delegates Reference Committees) shall consist of one member of the Council and two other members. Members of standing committees (other than House of Delegates Reference Committees) shall serve for a term of three (3) years. One member of each of these committees shall be nominated annually by the Council and if approved by the House of Delegates shall be deemed elected.

Section 3.—Report Procedure for All Committees

Regular standing and special committees of the Association may make investigations and surveys on authorization of the Council or House of Delegates, but all recommendations and reports of all committees (unless expressly otherwise provided in the Constitution or By-Laws) must be submitted only to the Council or House of Delegates. Other than as herein stated no committee is authorized to act for or represent this Association.

Section 4.—Advisory Groups to Standing Committees

To aid it in its work, each committee, if it so desires, shall have the power to appoint an Advisory Group to its committee, consisting of from two to ten members. Such advisory members, if present at a regular committee meeting, shall not have the right to vote.

Section 5.—Officers of Standing Committees

The chairman of each of these committees, except the Committee on Public Relations, shall be nominated and elected annually by the Council, by and with the approval of the House of Delegates. The chairman of the Committee on Public Relations shall be elected by said committee, subject to the approval and confirmation of the Council, and in the event of a failure to elect within sixty days after adjournment of the annual session the Council shall elect said chairman. Each of these committees shall, each year, except as otherwise provided in these By-Laws, at its first meeting or official consultation, during or following the annual session elect its own secretary.

Section 6.—Secretary-Treasurer's Notice to Standing Committees

The Secretary-Treasurer of the Association, within one month after the annual session, shall write the Committee Chairman of the preceding year, to call a meeting for organization and consideration of any business. The Secretary shall also send a copy of this letter to each of the other members of the committee.

Section 7.—Annual Reports of Standing Committees

At least sixty days prior to the annual session, each of these committees shall submit a written report to the Council on its work during the preceding year, the same to be printed in the Pre-Convention Bulletin as otherwise provided.

Section 8.—Committee on Scientific Work

The Committee on Scientific Work shall consist of the Secretary-Treasurer, the secretaries of the sections on general surgery and general medicine and three other members to be elected by the Council, each of these three members to serve three years, one member being elected each year. The Secretary-Treasurer shall be chairman.

This committee shall determine the character and scope of the scientific proceedings of the Association for each session, and shall invite the guest speakers, subject to the instructions of the Council.

At least thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers and discussions shall be presented.

This committee shall have one joint session with the section secretaries, at a time and place to be designated by the chairman of the committee, at least forty-five days prior to the annual session, to coordinate more efficiently the various activities of the Association at its annual session. The chairman of the local committee on arrangements shall be invited to attend this meeting.

Section 9.—Committee on Public Policy and Legislation

The Committee on Public Policy and Legislation shall consist of three elected members, and ex officio, the President and President-Elect.

The chairman of the committee, and in his absence, the President, shall act as chairman at the joint meetings of this central state group and of auxiliary county groups.

(a) *Functions of the Committee.* The Committee on Public Policy and Legislation and its auxiliary county groups shall represent the Association in securing and enforcing legislation in the interest of public health and of scientific medicine, subject, however, to the approval of the Council.

(b) *County Auxiliary Committees on Public Policy and Legislation.* Each component society shall appoint or elect three of its members as members of its auxiliary Committee on Public Policy and Legislation, designating one member as chairman; and the component society secretary shall send promptly the names and addresses to the Secretary of this Association.

(c) *Work of Auxiliary County Committees.* The Committee on Public Policy and Legislation of this Association, with the sanction of the Council, shall formulate the duties of these county auxiliary committees and supply each member with a copy of its suggestions and instructions. The auxiliary committeemen shall be accountable to their component societies and to the Council of this Association for

prompt and continued cooperation with the Committee on Public Policy and Legislation of this Association.

Section 10.—Committee on Medical Defense

The Committee on Medical Defense, subject to the approval of the Council, shall prepare plans and establish rules for the protection of the legal rights of members of this Association against whom suits for alleged negligence have been threatened or brought.

It may assist in the defense of any member sued for alleged negligence if the member was in good standing and had complied with the rules of the Council when the service on account of which suit was threatened or brought was rendered—provided that the committee determines that the position of the member merits such action.

Section 11.—Committee on Medical Education and Medical Institutions

The Committee on Medical Education and Medical Institutions shall serve in this State for the Council on Medical Education of the American Medical Association.

It shall keep in touch with the problems pertaining to medical education and to medical and other institutions of training for medicine and the healing art.

Section 12.—Committee on Hospitals, Dispensaries and Clinics

The Committee on Hospitals, Dispensaries and Clinics shall serve in this State for the Council on Hospitals of the American Medical Association.

It shall keep in touch with the problems arising in the fields of work of all types of hospitals, dispensaries and clinics giving special attention to those activities that are, or tend to become, a menace to the best interests of scientific medicine and of the profession and its members.

Section 13.—Committee on Medical Economics

The Committee on Medical Economics shall investigate matters affecting the economic status of doctors of medicine.

Section 14.—Committee on Associated Societies and Technical Groups

The Committee on Associated Societies and Technical Groups, subject to the instructions of the Council, shall endeavor to create proper liaisons between this Association and other state and national medical organizations, as well as with the organizations of related professions, such as dentistry, pharmacy and nursing. It shall also endeavor to bring about a proper understanding with non-medical organizations or groups of technicians and others whose work has a bearing on or is related to the practice of medicine.

Section 15.—Committee on History and Obituaries

The Committee on History and Obituaries shall compile and prepare for the archives and for the publications of the society suitable articles on the history of the Association and statements concerning deceased members. The Editor and the Secretary shall be members of this committee, ex officio.

Section 16.—Committee on Industrial Practice

The Committee on Industrial Practice shall keep in touch with matters and problems peculiarly connected with industrial practice.

Section 17.—Committee on Postgraduate Activities

The Committee on Postgraduate Activities, of which the Secretary-Treasurer shall be an ex officio member, shall use its best efforts to promote the postgraduate and clinical courses and instruction among the component county units of the Association.

The supervision of such postgraduate and clinical courses and instruction shall be carried on through the central offices of the Association, the Council being empowered to defray travel expenses of guest speakers and other costs incident to such work to such amount as in the judgment of the Council may be deemed proper. In the development of such postgraduate and clinical courses and instruction, it is stipulated that the component societies, through their constituted representatives, shall cooperate with the Standing Committee on Postgraduate Activities and shall also arrange to bear a proper proportion of the expense thereof of such amount as may be mutually agreed upon.

Section 18.—Committee on Public Relations

The Committee on Public Relations shall consist of the chairmen of the following committees: Public Policy and Legislation, Medical Economics, Associated Societies and Technical Groups, the President, President-Elect, and two additional members appointed by the Council.

The committee shall be responsible to the Council and the House of Delegates for all of its activities.

The Council or the Executive Committee may instruct the Committee on Public Relations, and outline to it certain policies and duties which shall be executed through the Director of Public Relations. In the event of any disagreement between the committee and the Council or the Executive Committee as to any activity or policy, the decision of the Council, after full discussion and hearing, shall be final.

The committee shall make recommendations to the Council for approval as to the time, the place, the number of meetings and the budget of the Department of Public Relations, provided that the Secretary shall call the first meeting of the committee within thirty (30) days following the annual meeting of the Association.

The Director of Public Relations shall be appointed by the Council (after consultation with the Committee on Public Relations) annually at the organization meeting of the Council. He shall serve

at the pleasure of the Council and the Committee. He shall act under the supervision and instruction of the chairman of the committee in such matters as shall be approved and sanctioned by the committee, and be responsible to the committee.

The Council shall arrange with the general counsel to give the committee all legal aid.

The committee shall annually at its first meeting elect its own chairman, subject to the approval and confirmation of the Council. The Secretary of the Association shall be ex officio secretary. A majority of the committee shall constitute a quorum.

Section 19.—Physicians' Benevolence Committee

The Physicians' Benevolence Committee shall consist of three (3) members whose appointments and terms of office shall be as provided in Section 2 of this Chapter.

The committee shall be responsible to the Council and the House of Delegates for all of its activities.

The committee shall administer those funds, of this Association, hereinafter designated as comprising the Physicians' Benevolence Fund.

The committee's administration of said fund shall be subject to the provisions of this section.

(a) The funds which may from time to time be allocated to it, from the general funds of the Association, by the Council, are the funds for this committee.

(b) All bequests, voluntary contributions, and donations, from any source whatever, that may be received by this Association for the express and implied purpose of aiding needy members, and

(c) All other funds from whatever source derived, except Accounts Receivable, payments for indebtedness to this Association, Dues and Assessments received by this Association, which the payer, donor, or other person transferring the funds, expresses the intent that such funds shall be for aid to needy members.

Funds contained in the Physicians' Benevolence Fund may from time to time be disbursed by the Physicians' Benevolence Committee.

Section 20.—Publication of Committee Reports in Pre-Convention Bulletin

Reports of the standing and special committees, as approved, deleted or modified by the Council, shall be published in a pre-convention bulletin or in the official journal of the month preceding the date of the annual session of the Association. Such reports must be in the hands of the Secretary-Treasurer at least sixty days in advance of the annual session.

If a committee fails to send in its report in proper time, the name of the committee and the names of its members shall be printed as above indicated, with a statement that the committee failed to send in its report, and the Council, subject to the approval of the House of Delegates, shall be empowered under such conditions to make such changes in the personnel of the committee as in its judgment may be deemed best.

Section 21.—Additional Committees

The House of Delegates and the Council are authorized and empowered to appoint special committees, with special instructions as to work to be undertaken, whenever it is deemed impractical or improper for the contemplated duties to be performed by a standing committee.

CHAPTER VIII.—ELECTION OF OFFICERS: TERMS

Section 1.—President-Elect—When and How Elected: Term of Office

The House of Delegates at each Annual Session thereof shall elect the President-Elect to serve until the adjournment of the final meeting of the House of Delegates at its next Annual Session. At the conclusion of the final meeting of the House of Delegates at its next Annual Session, such President-Elect shall assume the office of President, and serve as such for the term of one year thereafter, or until his successor assumes office.

Section 2.—Speaker and Vice-Speaker of House—When Elected: Term of Office

The House of Delegates shall at the Annual Session thereof elect a Speaker of the House of Delegates and a Vice-Speaker of the House of Delegates, each to serve for the term of one year, or until their successors are elected and assume office. The Speaker and Vice-Speaker shall be members of the House of Delegates at the time of their election.

Section 3.—Delegates to the American Medical Association

The House of Delegates shall elect delegates and alternates to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that organization.

Section 4.—Officers Elected by House of Delegates

Those officers who under the Constitution are elected by the House of Delegates shall be elected at the second meeting of the House at the Annual Session thereof.

Section 5.—Election of Ballot: Number of Votes Necessary

(a) All elections of officers shall be by ballot; provided, that by a two-thirds vote of the members present and acting election by ballot may be waived.

(b) A majority of the votes cast shall be necessary to elect any officer.

(c) In case no nominee receives a majority of the votes on the first ballot the nominee receiving the lowest number of votes shall be dropped and a new ballot taken. This procedure shall be continued until one of the nominees receives a majority of all the votes cast, when he shall be declared elected.

Section 6.—Election of District Councilors

At least twenty-four hours prior to the second meeting at each annual session of the House of

Delegates the delegates from those districts in which Councilor vacancies are about to occur shall separately meet, and in each district the delegates shall elect a chairman and a secretary. At such caucus the delegates in each district shall by nomination, secret ballot and majority vote of the delegates present elect a district Councilor from such district to serve for the ensuing term. The chairman of the district delegation shall then report at the second meeting of the House of Delegates the results of the election, and when such report is made the member elected shall thereupon assume office as a district Councilor. The time and place of the caucus of each district delegation shall, in the absence of unanimous written consent by the delegates from the district fixing time and place, be fixed by the Speaker and announced at the first meeting of the House of Delegates at each annual session. In the event that at any district caucus no person receives a majority vote for district Councilor after repeated ballots, the chairman of the caucus shall report such fact at the second meeting of the House of Delegates and shall also report the names of all nominees submitted to the caucus, whereupon the House of Delegates shall proceed to elect from such nominees the district Councilor from such district.

Section 7.—When Terms of Office of Speaker, Vice-Speaker and Councilors Begin

The terms of office of the Speaker and Vice-Speaker of the House of Delegates (which terms are herein generally stated to be one year) and the terms of office of the Councilors (which terms are herein generally stated to be three years) shall commence immediately upon the adjournment of the last meeting of the House of Delegates of the Annual Session of the Association at which such officers are elected, and shall continue up to the adjournment of the last meeting of the House of Delegates at the Annual Session of the Association of the year in which the term of office ends.

Section 8.—Officers to Hold Office Until Successors Are Elected and Assume Office

Every officer shall hold office until his successor has been elected and has assumed office either in person or by announcement.

Section 9.—Vacancies in Office

(a) In case of vacancy in the offices of both President and President-Elect, the chairman of the Council shall act as the Acting President until a President is elected at the next Annual Session of the House of Delegates.

(b) The Council by appointment shall fill any vacancy in office not otherwise provided for in the Constitution or these By-Laws, which occurs during the interval between the Annual Sessions of the House of Delegates. Such appointee shall serve until the next Annual Session or until his successor has been elected and has assumed office.

CHAPTER IX.—POWERS AND DUTIES OF OFFICERS

Section 1.—Duties of the President

The President shall preside at all meetings of the Association.

He shall appoint all committees not otherwise provided for; he shall deliver an address at the regular session at such time as may be arranged, and shall perform such other duties as custom and parliamentary usage may require, or as the House of Delegates or the Council may direct.

He shall be the real head of the profession of the state during his term of office, and, as far as practicable, shall visit, by appointment, the various sections of the state and assist the Councilors in building up the component societies, and in making their work more practical and useful. The Council shall decide what portion of the expenses incurred on his official visits shall be paid by the Association.

He shall be ex officio a member of all committees of the Association.

Section 2.—Duties of the Secretary-Treasurer, Executive Secretary and Field Representatives

The duties of the Executive Secretary and Field Representatives may be such as are delegated to them by the Council, and may be any and all duties as are specified under the various provisions of this section.

(a) *Minutes.* The Secretary-Treasurer (who may also be referred to as Secretary or Treasurer) shall attend the general meetings of the Association, the meetings of the House of Delegates, of the Council and of the Executive Committee, and shall keep minutes of their respective proceedings in separate record books.

(b) *Custodian of Records.* He shall be custodian of all record books and papers belonging to the Association. He shall have the custody of the seal of the Association.

(c) *Contracts.* He shall countersign all contracts, agreements, conveyances, transfers or other instruments to which the Association is a party, the execution of which has been authorized by the House of Delegates or Council.

(d) *Checks.* The Secretary-Treasurer shall sign and issue checks or drafts only upon vouchers approved and signed by at least two of the members of the Auditing Committee or as otherwise provided.

(e) *Advertisements in Association Publications.* The Secretary-Treasurer, subject to instructions by the Council, shall carefully examine, approve, modify or reject all material for advertising in any of the publications of the Association, and shall, in all cases of doubt, refer such proposed advertisements to the Executive Committee or the Council for decision. He shall, with the approval of the Council or the Executive Committee, execute, for the Association, written contracts relating to advertising in the form approved by the Council, subject to instructions by the Council.

(f) *Registrar at Annual Sessions.* He shall provide for the registration of the members and delegates at the Annual Session.

(g) *Index Register of California Medical Licentiates.* He shall, with the cooperation of the secretaries of the component societies, keep a card-index register of all the licensed practitioners of the state by counties, noting the status of each in relation to his component society; and shall transmit a copy of this list to the American Medical Association, transmitting to its secretary each month a report containing the names of new members and the names of those dropped from the membership roster during the preceding month.

(h) *Register of Component Societies, Their Members and Officers.* He shall keep a register of all component societies, their respective officers, and of all members of the Association, with their addresses, and shall compile an annual directory of the same. He shall print in the January or February issue of the official journal the number of active members of each component society as of November 1st of the preceding year.

(i) *Notices.* He shall give all notices required by the Constitution and By-Laws of this Association, or by order of the Council, or of the Executive Committee, or by law.

(j) *Correspondence and Notifications to Committees.* He shall conduct the official correspondence, promptly notifying members of meetings, officers of their election, and committees of their appointment and duties, as outlined in the motions creating such committees. Such notifications shall be made in writing.

(k) *Assistants.* He shall employ and dispense with such assistants as may be ordered by the Council. The Council by resolution may outline the scope and duties of special employees acting under the Secretary-Treasurer.

(l) *Annual and Other Report Forms.* He shall supply all component societies with the necessary forms for making their annual and other reports to this Association.

(m) *Salary.* The amount of his salary shall be fixed by the Council.

(n) *Bond.* He shall give bond in such sum as may be fixed by the Council. The Association shall pay the premium on said bond.

(o) *Duties as Treasurer.* He shall as Treasurer demand and receive all funds due the Association, together with bequests and donations, and shall promptly deposit the same in one of the depositaries thereof; and shall keep a proper and accurate record thereof, as well as of all funds disbursed by the Association.

(p) *Audits and Reports.* He shall subject his accounts to such examination or audit as the House of Delegates or Council may order.

He shall annually render an account of his work, and of the state of the funds in his hands, and make a report on the same and of his work as Secretary-Treasurer to the House of Delegates. He shall in writing also make such other reports as the House of Delegates or Council may request.

(q) *Disbursement of Association Moneys.* He shall pay out the money of the Association only upon a check or draft as otherwise provided herein.

(r) *Other Duties.* He shall perform such other duties as the Council or Executive Committee may direct.

Section 3.—Duties and Powers of the Chairman of the Council

The Chairman of the Council shall preside at all meetings of the Council. He shall sign all contracts and agreements, conveyances, transfers or other instruments (other than advertising contracts) to which the Association is a party, the execution of which has been authorized by the House of Delegates or the Council. He shall sign all checks or drafts for the disbursements of funds of the Association. He shall, on behalf of the Council, deliver its annual report to the House of Delegates. He shall perform such other duties as may be imposed upon him by the Constitution or these By-Laws.

Section 4.—Duties of Vice-Chairman of the Council

The Vice-Chairman of the Council, in the absence or inability of the Chairman to act, shall be vested with all the powers and shall perform all the duties of the Chairman.

Section 5.—Duties and Powers of the Speaker

The Speaker of the House of Delegates shall preside at its meetings and shall perform such other duties as parliamentary usage may require. He shall appoint all committees authorized by the House of Delegates, unless otherwise provided.

Section 6.—Duties of Vice-Speaker

The Vice-Speaker shall act as Speaker in the absence of or at the request of the Speaker.

Section 7.—Duties of the Editor

The Editor and Associate Editor or Editors shall compile, edit and have charge of the official journal of the Association and such other publications as the Council or the House of Delegates may instruct him to undertake.

CHAPTER X.—FUNDS, PROPERTY, BUDGET AND ASSESSMENTS

Section 1.—Preparation of Budget

The Auditing Committee, prior to December 1 of any year, shall submit to the Executive Committee, for consideration at its December meeting, a budget under which the Association shall work in the fiscal year following the next annual session.

The Executive Committee, after consideration of the Auditing Committee's proposed budget, shall submit the same to the Council, prior to the spring meeting of the Council, with a report of its own containing suggested changes, additions or comments.

The Council in turn shall consider the two proposed budgets so submitted, and shall then make a

final draft of a proposed budget for the Association, to be submitted to the House of Delegates at the next annual session.

Section 2.—Dues

(a) The Council shall recommend to the House of Delegates the amount of the annual dues or assessments of Active, Associate, Affiliate and Retired members of the Association.

(b) Honorary Members shall not be required to pay any dues or assessments, annual or special.

Section 3.—Reduction of Dues

The House of Delegates may reduce annual dues of active members, as follows:

(a) Those active members who have been in the practice of medicine for less than one year (on the first day of the calendar year for which such dues are payable), may be reduced to one-fourth regular dues;

(b) Those active members who have been in the practice of medicine for less than two years (on the first day of the calendar year for which such dues are payable), may be reduced to one-half regular dues;

(c) Those active members who have been in the practice of medicine for less than three years (on the first day of the calendar year for which such dues are payable), may be reduced to three-fourths regular dues.

Section 4.—Annual Dues and Assessments

(a) *When Payable.* The annual assessment or dues shall be payable on or before January 1 of the year for which they are levied.

(b) *County Secretaries to Collect Dues.* The secretary of each component society shall cause to be collected and shall forward to the office of the Association the dues and assessments for its members.

(c) *Record of Fact of Payment of Dues.* The record of payment of dues and assessments on file in the office of the Association shall be final as to the fact of payment by a member and as to his right to participate in the business and proceedings of the Association and of the House of Delegates.

(d) *Dues of New Members; Amount Payable.* All doctors of medicine becoming active members of this Association shall pay to this Association the annual dues payable by active members for the period for which membership is obtained, except that the Council may, in its discretion, with respect to all new members who acquire membership after July 1 in each year, require payment of only one-half of the annual dues for said year. Such payment shall entitle such new member to all the rights of active membership in this Association until the end of the current calendar year.

Section 5.—Bequests, Legacies, Donations and Gifts

The Association may receive through the Council or for the benefit of the Association through any corporation which may be formed pursuant to the Constitution, such bequests, legacies, donations and gifts as the Council shall deem it proper and suitable to accept.

Section 6.—Funds and Moneys: Deposit and Withdrawal

All funds and moneys of the Association by whomsoever received shall be promptly forwarded to the Secretary-Treasurer of the Association and deposited by him in a depositary of the Association.

No demands or claims against the Association shall be paid and no funds or moneys of the Association withdrawn from any depositary thereof except upon written voucher approved by the signature of at least two members of the Auditing Committee or by a majority vote or written approval of a majority of all the members of the Executive Committee on check or draft signed by any two of the following: The Chairman of the Council; the Vice-Chairman of the Council (only in the absence of the Chairman); Chairman of the Auditing Committee; the Secretary-Treasurer.

Section 7.—Revolving Fund

A revolving fund in such amount as may from time to time be fixed by the Council shall be deposited with the Secretary-Treasurer from which fund immediate cash demands may be paid.

Section 8.—Surplus Funds From Journal and Publications

On authorization therefor by the House of Delegates or the Council, any surplus funds arising from the operation of the official journal or other publications of the Association may be applied and used for any purposes deemed suitable or may be delivered and paid over to any corporation which may be formed pursuant to Article VIII, Section 1, of the Constitution.

CHAPTER XI.—REFERENDUM AND PETITION

Section 1.—Reference of Resolutions to Vote of Members

The House of Delegates may at any time, by a majority vote of those present, refer any resolution or motion pending before it to all of the active members of the Association for their vote for or against such resolution or motion. The Council may, by a two-thirds vote of all of its members and at any time within thirty (30) days after action was taken, refer any resolution or motion adopted by the House of Delegates to all of the active members of the Association for their vote for or against such resolution or motion. In addition, the Council may at any time, by a two-thirds vote of all of its members, submit any resolution or motion pending before it to all of the active members of the Association for their vote for or against such resolution or motion.

Section 2.—Form of Referendum: Arguments

The body referring any resolution or motion to the active members of the Association may, in the motion of reference, determine the form of the question to be submitted. In the event the motion of ref-

erence does not determine the form of the question to be submitted, then the form thereof shall be fixed and determined by the Council. Written arguments for and against the resolution or motion, not exceeding 1000 words each, may be submitted by any member of the Association to the presiding officer of the referring body within fifteen (15) days of the vote of reference. Such presiding officer may choose one argument on each side and same shall then be printed and mailed with the ballots.

Section 3.—Manner of Voting; Time of Voting; Canvass

All references to the membership under this article shall be by mail ballot. The time within which each member shall cast his vote may be fixed in the motion of reference, and if not so fixed shall be fifteen days from the date of mailing ballots. Each vote must be in writing and the same must be placed in a sealed envelope bearing on the corner thereof the name of the voter. The envelope shall be mailed or delivered to the Secretary's office. The canvass thereof shall be made by a committee on referendums to be appointed, in the case of reference by the House of Delegates by the Speaker of the House, and in the case of reference by the Council by the Chairman of the Council. The Secretary shall deliver to such committee all ballots timely received, and the committee shall canvass the vote and report the results thereof immediately to the Secretary.

Section 4.—Effect of Referendum

To be considered adopted, any resolution or motion submitted to the membership by referendum shall require the same proportionate affirmative vote of those voting that such resolution or motion would have required to be adopted by the body (House of Delegates or Council) from which such resolution or motion was referred. Any resolution or motion submitted to a referendum and adopted shall have the same force and effect as though adopted in the body from which it was referred, and shall be considered as having been so adopted by such body. A referendum shall not be effective or binding unless a majority of the active members vote thereon.

Section 5.—Petitions

Any 100 active members or any component society may petition the House of Delegates or Council on any matter and such petition must thereupon be heard and considered at the next ensuing regular meeting of such body.

CHAPTER XII.—MISCELLANEOUS

Section 1.—Ethics

The principles of medical ethics as promulgated from time to time by the American Medical Association and by the California Medical Association are and shall be the principles of medical ethics of this Association and the component societies thereof, and shall regulate and govern all members thereof.

Interpretation of ethics about which any controversy may arise or exist shall be submitted to the Council of this Association, and its interpretation and ruling thereon shall be final.

Section 2.—Rules of Order

In the absence of any provision in the Constitution or these By-Laws, all meetings of the Association, of the House of Delegates, of the Council, and of committees shall be governed by the parliamentary rules and usages contained in the current edition of Roberts' "Rules of Order."

CHAPTER XIII.—AMENDMENTS

Section 1.—Amendments—Vote and Procedure

These By-Laws may be amended by the House of Delegates at any meeting of any session thereof by the affirmative vote of at least two-thirds of the qualified members thereof present and acting; provided, that any proposed amendment has been submitted in writing to the House of Delegates at least twenty-four hours previous to being voted upon.

CHAPTER XIV.—REPEAL OF ALL EXISTING BY-LAWS

Section 1.—Repeal of Existing By-Laws

All chapters and all sections and parts of all chapters of the existing By-Laws of this Association are hereby repealed.

Questions and Answers about C. P. S.

Question: **Do all Grange members have same benefits?**

Answer: Yes, coverage for Grange members is uniform for subscribers and family dependents alike. This coverage is medical-service-while-hospitalized, surgical and hospital.

Question: **Is radiation therapy ever a benefit under the C.P.S. surgical contract?**

Answer: Yes, but only in certain of the superficial malignancies—such as cancer of the lip and cancer of the cervix where radiation therapy is the chosen method for destruction of the lesion. On the other hand, radiation therapy is not a surgical benefit of certain other superficial conditions—such as acne, fungous lesions, etc.

Question: **How does the C.P.S. income ceiling apply to a patient whose income is less than $3,600, but who is "worth" $50,000?**

Answer: C.P.S. contracts state that service benefits are available to those persons whose gross family income was less than $3,600 in the preceding calendar year. The capital "worth" of a family cannot be taken into consideration unless dividends or other earnings from that worth result in income over $3,600.

Question: **When will physician members receive an adequate fee from C.P.S., or will they continue to bear the burden of taking the loss entailed in operating C.P.S.?**

Answer: One of the resolutions of the House of Delegates at the last C.M.A. convention was that all future C.P.S. policies should be designed to pay the full fee schedule. Acting in accordance with this resolution, the Board of Trustees has developed new contracts which are designed to pay adequate fees to physicians. The process of converting all old contracts to new contracts is now under way and will be completed as soon as practicably possible.

Question: **What is covered under "medical coverage in and out of the hospital"?**

Answer: C.P.S. has various contracts and it is not possible to give a detailed analysis of each here. The physician's attention is directed to the patient's identification card for determination of benefits. Whenever any additional information is required, the physician may contact the C.P.S. Medical Department or Physician Relations Department.

Question: **How can a commercial company offer a more "attractive package" than C.P.S., which is non-profit?**

Answer: If considered only from the viewpoint of fees, it might appear commercial coverage is more "attractive." However, a fuller understanding, which this question calls for, does not support belief that commercial coverage is more attractive.

The greater percentage of C.P.S. patients receive "service" benefits, while commercial companies provide "indemnity" benefits. The difference between a service and an indemnity contract is: A service contract sets no dollar limit on the benefits a person may receive for various ailments; an indemnity contract allows a specified amount for each ailment. Thus the amount paid by C.P.S. in a given case can, and often does, greatly exceed any indemnity schedule of benefits.

Finally, it should be pointed out that the service principle of C.P.S. represents the wish of California's medical profession to provide, as much as possible, benefits which are in accordance with the needs of the case—and especially for persons in lower income brackets.

Question: **Why cannot the $3,600 income clause be removed from the C.P.S. contract?**

Answer: If the income clause were abolished, it would tend to convert C.P.S. from a service to an indemnity plan, whereas it is the wish of the medical profession in California to provide service benefits for persons in the lower income brackets. It is perhaps pertinent to point out that some medically-sponsored plans in the United States provide service benefits regardless of income, while other plans have income ceilings up to $6,000. The C.P.S. income ceiling is set by the House of Delegates of C.M.A., acting as administrative members of C.P.S.

Question: **I sometimes have billing forms returned with a notation saying "contract for x-ray covers fractures and dislocations only." Is the patient's coverage for these x-rays void if no fractures or dislocations are found?**

Answer: This question refers to the C.P.S. surgical contract. It provides that, outside the hospital, x-ray benefits apply only to fractures and dislocations in accident cases. If such x-rays show no fractures or dislocations, the x-ray benefits still apply, but the physician must indicate on his billing that the x-rays were taken to determine the presence of a fracture or dislocation resulting from an accident.

The only difference between old and new surgical contracts on this point is that new contracts limit these x-rays to a *total of $25.00 per year outside the hospital.*

Question: **Explain why osteopaths get our (C.P.S.) rate of fees and may charge in addition while we are limited.**

Answer: An osteopath who does not have the license of physician and surgeon is not reimbursed by C.P.S. An osteopath who does hold such a license is paid the same rate as a C.P.S. physician member if he treats a C.P.S. patient. Osteopaths were included in the C.P.S. program on the recommendation of the Chandler Committee Report to the House of Delegates, the reason for the action being the belief that the public should have free choice of physicians licensed to practice medicine and surgery.

NEWS and NOTES

NATIONAL • STATE • COUNTY

ALAMEDA-CONTRA COSTA

Dr. Dorothy M. Allen was elected president of the Alameda-Contra Costa County Medical Association, succeeding Dr. T. Eric Reynolds, at the recent annual meeting of the organization. Dr. Cyril J. Attwood was elected vice-president and Dr. Paul Michael secretary-treasurer.

KERN

The Kern County Medical Society has elected the following **officers for 1951:** President, Dr. Roderick A. Ogden; vice-president, Dr. George W. Garner; secretary-treasurer, Dr. Robert W. Sheldon. Delegates to the California Medical Association are Dr. Sophie L. Goldman, Dr. Robert Patrick, and Dr. J. E. Vaughan.

LOS ANGELES

Orthopaedic Hospital, Los Angeles, aided by a grant from the National Foundation for Infantile Paralysis, will offer three short-term **courses in poliomyelitis** for physicians during 1951. Courses are scheduled to begin on February 12, May 21 and October 22. They will cover all phases of patient care with emphasis on coordination of services. Further information may be obtained from C. L. Lowman, M.D., 2400 South Flower Street, Los Angeles 7.

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The program of the six-day annual **Postgraduate Convention** of the College of Medical Evangelists School of Medicine, to be held at the Biltmore Hotel, Los Angeles, March 11-16, will be designed particularly **for general practitioners,** according to official announcement of the course. Thirty-two speakers drawn from the faculties of every western medical school will present lectures, panel discussions, scientific exhibits and motion pictures, the announcement said.

The program will be divided into two main parts, three days of scientific papers, exhibits and motion pictures, followed by three days of concentrated special courses. Further information may be obtained from Postgraduate Assembly of the College of Medical Evangelists, 312 North Boyle Avenue, Los Angeles 33.

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Dr. K. C. Brandenburg of Long Beach was elected president of the Los Angeles Society of Ophthalmology and Otolaryngology at the annual meeting of the organization in November.

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Dr. R. O. Bullis was elected president of the Los Angeles County Medical Association for 1951 at the annual meeting of the association in December. Dr. William E. Costolow, last year's president, was elected a trustee for a five-year term. Dr. Warren A. Wilson was elected vice-president and Dr. Paul D. Foster secretary-treasurer.

SACRAMENTO

Dr. Ira O. Church, formerly health officer of Santa Barbara County, recently was appointed health officer of the City of Sacramento. Dr. Herbert Bauer had been serving as acting health officer for Sacramento.

SAN DIEGO

Dr. J. B. Askew, director of the San Diego Department of Public Health, has been elected president of the California Conference of Local Health Officers. In that office he succeeds Dr. W. E. Turner, health officer of Santa Clara County. Dr. Elmer M. Bingham, San Joaquin District health officer, was elected vice-president, and Dr. Roy O. Gilbert, Los Angeles County health officer, secretary.

SAN FRANCISCO

Dr. Garnett Cheney was elected president of the San Francisco County Medical Society at the annual meeting in December. He succeeds Dr. William L. Bender, who was elected a director of the organization. Dr. Phillis Bourne was elected first vice-president, Dr. Emile D. Torre second vice-president. Reelected secretary-treasurer was Dr. Allen T. Hinman.

In addition to Dr. Bender, the following directors were elected: Dr. Dorothy W. Atkinson, Dr. Walter Beckh, Dr. William G. Burkhard, Dr. Francis L. Chamberlain, Dr. Kenneth Gardner and Dr. David A. Wood.

* * *

Physicians wishing to refer **patients with hemophilia** or allied abnormalities of blood coagulation for special study, without charge, by members of the faculty of Stanford University School of Medicine, may do so as a result of an anonymous gift of $8,000 per year for three years to the university for research on the disease. Investigations into the fundamental nature of the coagulation defect are being conducted, and it is planned to study methods of therapy, including the effect of fractions of plasma protein on the course of hemophilia. Physicians who wish to refer patients should contact the office of the dean of the medical school in San Francisco.

SANTA BARBARA

Dr. Joseph T. Nardo became acting health officer of Santa Barbara County, effective November 15, succeeding Dr. Ira O. Church, who left the post to accept appointment as health officer of the City of Sacramento.

SOLANO

Dr. John J. Garthe was elected president of the Solano County Medical Society at a recent meeting, succeeding Dr. Bernard O'Donnell, who was elected to a four-year term on the board of directors of the organization. Dr. R. Matthew Gibbons was elected vice-president and Dr. Irwin Shankman secretary-treasurer.

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Dr. John A. Saltman has been appointed health officer of the city of Vacaville, to succeed Dr. Henry L. Fuller.

STANISLAUS

Dr. Hans Hartman has been appointed by the board of supervisors of Stanislaus County as medical director of the county hospital. Dr. Hartman, a member of the hospital staff for some time, succeeded Dr. Richard D. Husband who resigned as medical director early last month.

GENERAL

The California State Board of Public Health will hold a hearing on January 19, 1951, at 10:30 a.m. in Room 668 Phelan Building, 760 Market Street, San Francisco, on proposed amendments to the California Administrative Code, Title 17, Chapter 1, Subchapter 3, Groups 2 through 8 (including all articles), Section 196 through 764 pursuant to authority of Sections 208, 1,400 to 1,421, Division 2, Chapter 2, of the Health and Safety Code.

POSTGRADUATE EDUCATION NOTICES

For more complete information as to fees and time of sessions address the institutions as listed.

UNIVERSITY OF SOUTHERN CALIFORNIA SCHOOL OF MEDICINE

CARDIOLOGY—12 weekly two-hour evening lectures on all aspects of heart and peripheral vascular diseases, with special emphasis on the evaluation of cardiac drugs and the practical interpretation of x-rays of the heart and electrocardiograms. Inglewood, January 18, 1951.

ENDOCRINOLOGY—12 weekly two-hour evening lectures and demonstrations on the clinical characteristics of the endocrine syndromes, their pathology, physiology, diagnosis and treatment. San Diego, January 19, 1951.

UNIVERSITY OF CALIFORNIA MEDICAL EXTENSION, San Francisco 22

Graduate Instruction:

February 5 to April 9, 1951 (Monday evenings).

Clinical Science as applied to General Medicine, Part III, Gastroenterology.

September through January (Monday and Wednesday evenings).

Didactic Resident Course in Ophthalmology. Part I, First Semester.

(A few places are available in each of the above for practicing physicians.)

Postgraduate Courses for Practicing Physicians:

January 23 to 26 (at Franklin Hospital).

Urology in Practice. Lectures and demonstrations on newer methods.

January 29 to February 2 (mornings at Medical Center).

Cardiovascular Diseases. Recent advances in diagnosis and treatment.

Electrocardiology (afternoons at Medical Center). One hour lecture and two hours of practice in interpretation.

February 19 to 23 (University Extension Building, 540 Powell Street).

Diseases of Chest. Recent advances and evaluation of fundamental diagnostic and therapeutic problems.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Internal Medicine—9 months full-time, December 4, 1950 to September 1951.

Trauma, Fractures, and Reconstructive Surgery—December 7, 1950 to April 1951. One per week.

Institute on Upper Extremity Prosthetics, January 22 to 26, 1951.

Advanced Hematology—January 10 through February 28, 1951. One night a week for eight weeks.

STANFORD UNIVERSITY, SCHOOL OF MEDICINE, San Francisco 15

Clinical Ophthalmology—March 26 to March 30. Registration limited to 30 physicians limiting their practice to the treatment of diseases of the eye or eye, ear, nose and throat.

THE COLLEGE OF MEDICAL EVANGELISTS

Differential Diagnosis and Treatment of Internal Diseases—January 8 through March 26, 1951.

Dermatology—January 3 through March 21, 1951.

General Urology—January 3 through February 28, 1951.

Proctology—January 4 through March 8, 1951.

Cardiology—January 9 through March 13, 1951.

Ophthalmology—January 30 through March 20, 1951.

Histology and Histopathology of the Eye—February 28 through June 20, 1951.

Varicose Veins—March 1 to April 5, 1951.

The proposed amendments clarify current **requirements for hospital licensing** and eliminate duplication. As proposed, they provide one section of requirements which would apply to all hospitals, nursing homes, sanatoria, etc., followed by specific requirements which apply to each category.

Copies of the present and proposed regulations are available for inspection in the California State Department of Public Health, Los Angeles and San Francisco offices.

* * *

The American College of Allergists will hold its seventh annual meeting at the Edgewater Beach Hotel, Chicago, February 12, 13, and 14, 1950. A three-day course of instruction for physicians who wish to learn the basic principles of diagnosis and treatment of allergic diseases will be offered immediately before the opening of the annual meeting. Further information may be obtained from Fred Wittich, M.D., secretary-treasurer, American College of Allergists, LaSalle Building, Minneapolis, Minn.

* * *

The eleventh annual postgraduate convention of the **Oregon Academy of Ophthalmology and Otolaryngology** will be held in Portland, March 25 to 30. Guest speakers are: Dr. Richard G. Scobee, professor of ophthalmology, Washington University Medical School, St. Louis; Dr. F. Bruce Fralick, professor of ophthalmology, University of Michigan Medical School, Ann Arbor; Dr. Theodore E. Walsh, professor of otolaryngology, Washington University Medical School; and Dr. Maurice H. Cottle, professor of otolaryngology, Chicago Medical School.

* * *

The annual meeting of the California Society of Anesthesiologists, which this year is sponsoring the second biennial **Western Conference on Anesthesia,** is scheduled to be held April 2 to 4 at Hotel del Coronado in San Diego. "Circulation" will be the theme of the Western Conference.

* * *

The third **Western Institute on Epilepsy** will be held in Salt Lake City, Utah, June 15 to 17, 1951. The meeting is designed to be of interest to physicians, social workers, public health nurses, employers, teachers, rehabilitation workers, state hospital personnel, and education leaders.

Further information may be obtained by writing to Dr. Harriot Hunter, University of Colorado Medical Center, 4200 East Ninth Avenue, Denver, Colorado, or Dr. Jean P. Davis, University of Utah, College of Medicine, Salt Lake City, Utah.

BOOK REVIEWS

HANDBOOK OF BACTERIOLOGY for Students and Practitioners of Medicine. By Joseph W. Bigger, M.D., Sc.D. (Dublin), F.R.C.P. (London), Professor of Bacteriology and Preventive Medicine, University of Dublin. Sixth Edition. The Williams and Wilkins Company, Baltimore, 1950. $4.50.

Textbooks such as this that have survived six editions and 12 printings must have substantial merit to have endured so long. The most casual perusal of this very excellent book confirms this impression. Approximately the first half of the book is devoted to techniques for the examination and cultivation of microorganisms, the various antimicrobial substances, the normal flora of human beings and some of their environments, and to a brief discussion of immune phenomena. Of particular value to physicians are the descriptions of methods for the collection of materials from patients, identification of pathogenic bacteria, practical laboratory methods in connection with antibiotics, and a description of the normal flora of the human body.

The last half of the work is devoted to a description of the various microorganisms which cause disease in man. Very little space is devoted to the viruses and Rickettsiae since this is a highly specialized subject requiring techniques not usually available to the hospital laboratory or to the physician. The important bacteria are described concisely and one notes that a vast amount of traditional material pertaining to their properties of growth on a variety of bizarre media has been omitted. There is virtually no attempt to discuss the disease processes caused by the various microorganisms. This greatly strengthens and simplifies the book, and has avoided the many pits into which authors of such texts usually fall.

This textbook is eminently sound and should prove to be exceedingly satisfactory for use as a teaching text in courses of bacteriology. It is not sufficiently detailed to be used as a reference work and therefore can hardly be compared with some of the larger and more complete modern American and English texts. The literary style, as is so often the case in books appearing in England, is superior to that of most American texts, particularly in the basic sciences, and one feels that for this reason it might well attract the student's interest to a greater degree than might one of the many dry and pedantic American works on the same subject.

* * *

MULTIPLE SCLEROSIS AND THE DEMYELINATING DISEASES. Proceedings of the Association, December 10 and 11, 1948, New York. The Williams and Wilkins Company, Baltimore, 1950. $12.00.

If one comes away from this book without any very definite conviction regarding the etiology or treatment of the demyelinating diseases, and multiple sclerosis in particular, it is not due to any lack of thoroughness in the handling of the subject. Like all of the research publications of the Association for Research in Nervous and Mental Diseases, this work brings up to date all the knowledge we have regarding this common neurological condition. It is of primary importance to the practicing neurologist, but the internist and general practitioner may also find it of practical usefulness if they read selected portions. Thus the chapter on the electroencephalogram in multiple sclerosis might well be skipped by all except those devoting themselves largely to this laboratory procedure. It is to be feared that the encyclopedic nature of the work will discourage the clinician from rooting out the more practically important items that lie buried in the mass of detail.

RESEARCH IN MEDICAL SCIENCE. Edited by David E. Green, Ph.D., and W. Eugene Knox, M.D. The Macmillan Company, New York, 1950. $6.50.

This intensely interesting volume indicates, in a collection of sketches by experts in their subjects, the interdependence of the biologic sciences and the manner in which they are brought to the services of modern scientific medicine. Aside from indicating the logic and techniques of specialists in the various fields into which medicine overlaps, it serves to demonstrate that the physician, who calls upon the specialist for assistance in the solution of his problems, must become acquainted as an amateur in the field of research in which the medical problems presented by his patients fall. The volume presents a series of interesting essays and excursions into the many subjects which should arouse the attention of every modern physician and the undergraduate student of medicine, in order to act as a ferment to stimulate his interests in problems which need exploration.

* * *

DISEASES OF THE NERVOUS SYSTEM—Described for Practitioners and Students. By F. M. R. Walshe, M.D., Fellow of the Royal College of Physicians of London. Sixth Edition. The Williams and Wilkins Company, Baltimore, Md., 1949. $5.00.

No better recommendation for this book can be made than that it is now in its sixth edition since 1940. Its popularity is well deserved. It is primarily written for the use of the medical student and general practitioner; and to make a small volume on clinical neurology useful, practical and understandable is no easy task. The author rightly makes no pretense to cover all the fields of his subject and "to multiply the enumeration of those eponymous signs and syndromes by means of which enterprising clinicians stake out their claims as it were upon the human body. All this is a tyranny of words. . . . The emphasis is upon understanding clinical neurology in terms of applied anatomy and physiology of the nervous system, and to understand neurological illness not only as a lesion but as a sequence of events."

The book is divided into two main sections. The first is devoted to general principles of neurological diagnoses and includes a simple, brief description of salient neuroanatomical and neurophysiological facts as they relate to broad neurological syndromes. The second section describes the more common diseases of the nervous system, including space-occupying lesions within the skull such as tumor, hematoma and abscess, vascular disorders of the brain, epilepsy, acute infections of the nervous system, syphilis of the nervous system, affections of the spinal nerves, etc.

The weakest part of the book is in the description of the psychoneuroses, and here the author would have done well to enlist the cooperation of a psychiatrist. The author's differentiation between the so-called hysterical fits and "true" epileptic fits is the usual one that is so frequently encountered in textbooks, but despite this it is equally impossible to make an actual differentiation without long-term observation and electroencephalographic study. The presence or absence of incontinence or tongue-biting, which is mentioned by the author as a differential point, is actually of little important value.

The author may be complimented on the success of his task in presenting on the whole a clear and succinct review of clinical neurology.

OFFICE ORTHOPEDICS. By Lewis Cozen, M.D., F.A.C.S., Attending Orthopedic Staff, Veterans Hospital, Los Angeles County Hospital; Assistant Professor of Orthopedic Surgery, College of Medical Evangelists. Lea and Febiger, Philadelphia, 1950. $5.00.

This small volume describes a series of office procedures that the author believes indicated in the conduct of an orthopedic practice. He gives instructions relating to plaster of paris technique, to physical therapy, local anesthesia and the fitting of prostheses. A section is devoted to the disabilities commonly encountered in each part of each extremity. Another section includes a discussion of pathologic entities that cause pain or disability in various regions of the back, neck, extremities and jaws, with brief notes about treatment.

The individual specialist in orthopedic surgery will doubtless disagree with a number of ideas bearing on etiology and specific forms of treatment. This is to be expected because a consideration of this subject of office orthopedics must include a certain amount of treatment that is empirical. At times in the book, however, treatment is directed against pathology not generally accepted as etiologic. For instance, a paragraph is devoted to subdeltoid bursitis and also to radiohumeral bursitis, when many doubt that the basic pathology behind the complaints so named is really primarily bursitis.

In spite of its limitations, the book is worthwhile, because it deals with a field not well covered elsewhere in a small volume. Strikingly helpful are a good series of line drawings that explain special orthopedic exercises and tests, that portray special splints and braces as well as useful pieces of apparatus, and that illustrate particular techniques in orthopedic therapy.

* * *

THE CYTOLOGY AND LIFE-HISTORY OF BACTERIA. By K. A. Bisset, Ph.D., Lecturer in Bacteriology, University of Birmingham. The Williams and Wilkins Company, Baltimore, 1950. $3.50.

Thoughtful biologists and bacteriologists must have been aware for a long time that the techniques used in preparing the bacterial cell for microscopic examination by heat fixation and staining would have led to striking distortion in the appearance of microorganisms and would have obscured their true structure. That this is the case has been clearly shown by Bisset, who presents a summary of his work over a period of several years in this monograph. His beautiful microphotographs, showing the intimate cellular structure of bacteria stained by his special methods, are fascinating. For example, the gonococcus proves to be not the diplococcus of traditional bacteriology but a multicelled organism in which the processes of routine staining have caused the protoplasm to shrink away from the cell wall, thus forming two apparent cocci. The diphtheria and tubercle bacilli prove to be multicellular, nucleated organisms appearing not very different from any other plant. The author also presents a good deal of information in regard to chromosome behavior in bacteria and describes sexual and asexual stages of multiplication. The latter were to have been expected from the rapid development in the field of bacterial genetics and mutation, which has been so profitably explored within the last few years.

Finally, the author makes a plea for the simplification of bacteriological taxonomy on the basis of morphology as defined by these more refined techniques. His suggestions seem quite reasonable and doubtless would bring a greater measure of order to a subject which, at the present time, is confused beyond belief.

This book can be highly recommended to the physician with interests in general biology who wishes a quick and not overly complicated look at the structure of an immensely important group of living things.

A PRIMER FOR DIABETIC PATIENTS. An Outline of Treatment for Diabetes with Diet and Insulin including Directions and Charts for the use of Physicians in Planning Diet Prescriptions. By Russell M. Wilder, M.D., Professor and Chief of the Department of Medicine of the Mayo Foundation. Ninth Edition. W. B. Saunders Company, Philadelphia 1950. $2.25.

The present edition, the ninth of this well-recognized manual for diabetic patients, follows in general the same scheme of treatment as previous volumes. In the preface the author points out that he has advocated more liberal diets than formerly and is less rigid in his requirements for the control of glycosuria.

The essentials of diabetic treatment are presented in a very simple direct manner, and at the end of each chapter there are a series of questions covering the subject matter of that chapter. Certainly anyone who reads the book and answers all the questions will have a sound knowledge of the proper care of the diabetic patient.

There are a few points in which this reviewer is inclined to be critical of Dr. Wilder's teachings. First, in a book of 200 pages, the all-important question of obesity is covered in one short paragraph. It would seem that in a book designed to impress diabetics a great deal more emphasis should be placed on the evils of obesity.

Secondly, Dr. Wilder still seems to feel that animal fats, particularly dairy products, are greatly preferable to carbohydrates in the diabetic diet, and his recommended diets would seem to contain more fat than most dietitians advocate at the present time.

Finally, in the recommendation for treatment of diabetic retinopathy he says that treatment is unsatisfactory but still suggests the use of rutin, a substance most investigators have found to be worthless.

Despite these criticisms it is still felt that this manual should be recommended as required reading to most diabetic patients.

* * *

REGIONAL DERMATOLOGIC DIAGNOSIS—A Practical System of Dermatology for the Non-Specialist. By Ervin Epstein, M.D., Consultant in Dermatology and Syphilology to the Oakland Area Veterans Hospital and Mt. Zion Hospital, San Francisco. Lea and Febiger, Philadelphia, 1950. $6.00.

This book admirably fulfills the purpose for which it was written, an aid to dermatologic diagnosis for the general physician.

Many skin diseases follow a regional pattern of distribution. By carefully noting this distribution and by consulting a text such as this one on regional dermatology the general physician can often make an accurate diagnosis even though he has not been trained in the minutiae of dermatology. For example, he may not be expert in recognizing the burrow of scabies or in digging out the parasite, but if he notes that a pruritic eruption occurs on the interdigital webs, the flexors of the wrists, the tip of the elbow, the anterior axillary folds, around the umbilicus and on the buttocks and penis he may be positive that he is dealing with scabies.

The book is thoroughly up to date in respect to the newer diagnostic aids such as the "l.e." cell in lupus erythematosus, and the use of such new remedies as ACTH and cortisone.

Because of the necessity of considering each common dermatosis wherever it characteristically occurs there is considerable repetition and it is possible that the author could advantageously work out some system of cross-reference for future editions. There are some errors in typography and wording which he will undoubtedly correct.

Your reviewer is not aware of any other text which helps the general physician by such a practical approach to dermatology on a regional basis. Therefore the book is recommended as a supplement to standard dermatologic textbooks.

A MANUAL OF CARDIOLOGY. By Thomas J. Dry, M.A., M.B., Ch.B., M.S. in Medicine—Associate Professor of Medicine, University of Minnesota (Mayo Foundation); Consultant in Section on Cardiology, Mayo Clinic. Second Edition—Illustrated. W. B. Saunders Company, Philadelphia, 1950. $5.00.

This is a sound, concisely and clearly presented synopsis of cardiology. It is well and simply written. The second edition has been thoroughly revised, especially the chapters on congenital malformations, electrocardiography as related to clinical problems, coronary heart disease, congestive heart failure and subacute bacterial endocarditis. Also, a chapter has been added on pregnancy, anesthesia and surgical operations in relation to organic heart disease.

The chapter on coronary heart disease is exemplary in the clarity of its discussion on the pattern of electrocardiographic changes in both classical and atypical types of myocardial infarction. The discussion and presentations relative to electrocardiography have stressed the Wilson unipolar precordial leads.

There are certain exceptions to the usually clear, concise presentation. Page 32, which introduces the chapter on specific features in diagnosis, could be compressed into its first paragraph plus a single additional sentence. The rest of the page is unnecessary and confusing. The definition of angina pectoris (page 38) could be clarified for the benefit of the general practitioner. Chapter 5, on alterations in cardiac size and cardiac contour, is developed well until it reaches its climax on page 71; there the author tells the reader that roentgenologic methods "supply by far the most accurate information"; but he neither adequately tells the reader how to fluoroscope the heart nor what to look for. On page 178, sulfadiazine and sulfathiazole are recommended for the prophylaxis of rheumatic heart disease; this is unfortunate in a volume of this caliber written in the year 1950.

The above criticisms are written as suggestions for a future revision and in no way detract from the reviewer's impression that this is an excellent book which can be highly recommended to practitioners and students alike for reference.

* * *

THE ABNORMAL PNEUMOENCEPHALOGRAM. By Leo M. Davidoff, M.D., Director of Neurological Surgery, Beth Israel Hospital, New York City; Clinical Professor of Neurosurgery, New York University, Postgraduate Medical School; and Bernard S. Epstein, M.D., Associate Radiologist, The Jewish Hospital of Brooklyn, and Instructor in Clinical Radiology, Long Island College of Medicine. 695 illustrations. Lea and Febiger, Philadelphia, 1950. $15.00.

This volume deals with the abnormal pneumoencephalographic findings, seen in association with various intracranial pathological conditions in infants, children and adults.

The entire subject is presented in a straightforward, clear and concise fashion, with illustrations to demonstrate the various points under discussion. This includes case histories and illustrations of postmortem specimens.

The book is divided into three sections.

In the first part of the first section the authors discuss the relative frequency of the various types of tumors of the brain and their histological characteristics.

The last part of this section deals with the particular characteristics of intrinsic and extrinsic tumors involving the various regions of the brain. Each region is discussed in detail, presenting the clinical picture, a review of the literature and the authors' material. Under the latter heading the following points are discussed: (1) relative value of the plain roentgenograms, (2) pneumoencephalographic findings and the interpretation of such, (3) presentation of representative case histories, (4) a summary of the findings and differential diagnosis. All phases are adequately discussed and illustrated, leaving nothing to one's imagination.

The second section is headed "Non-neoplastic Tumors." In this section, as well as in the first, the authors follow the same general principles of presentation. Under this heading are included such conditions as chronic subdural hematoma, brain abscess, syphilis of the brain, vascular anomalies of the brain, cerebral hemorrhage and thrombosis. All points are adequately discussed and illustrated.

The third section, designated as "Non-tumorous Lesions of the Brain," forms a most interesting part of the volume. The following subjects are discussed in the same fashion as those in the other sections: (1) Cerebral atrophy. (2) Agenesis of the corpus callosum. (3) Platybasia, Arnold-Chiare malformation, meningoencephalocele and craniolacunia. (4) Congenital hydrocephalus; amaurotic family idiocy. (5) Optic chiasm and posterior fossa arachnoiditis. (6) Serous meningitis. (7) Encephalitis, encephalopathies and rare infections of the nervous system. (8) Tuberous sclerosis.

As a result therefore, the book will be of value and is recommended to those primarily interested in this subject, namely the neurological surgeon, the neurologist and the roentgenologist, as well as the graduate student in these various fields. In addition it will form an excellent reference book for the psychiatrist, pediatrician and internist.

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COMMUNICABLE DISEASES. Edited by Roscoe L. Pullen, A.B., M.D., F.A.C.P., Professor of Graduate Medicine, Director of the Division of Graduate Medicine and Vice-Dean of the School of Medicine, Tulane University. Lea and Febiger, Philadelphia, 1950. $20.00.

This new book by Dr. Pullen and 52 contributors is the most inclusive and largest of modern textbooks on communicable diseases. In addition to the common infectious diseases included in most similar texts are chapters on many of our less common diseases, including contagious diseases of the skin and eyes, and numerous tropical diseases.

The all-inclusiveness of the text contributes to one of its shortcomings; namely, relatively brief coverage of some of the more important infections. Generally speaking, however, coverage is adequate for most purposes. The factual information contained is, for the most part, quite accurate and generally accepted. Certain statements, however, seem unfortunate to the reviewer. Some of these have to do with the unavoidable delay between compilation and publication during which time older remedies have been discarded and newer ones have replaced them. In such a category are the treatment of scarlet fever with sulfonamides, the use of vaccine in the treatment of pertussis, and the mandatory use of antiserum in meningitis due to H. influenzae.

Other shortcomings include too brief a discussion of the differential diagnosis of diphtheria, lack of mention of mumps meningoencephalitis without sialadenitis, and the statement that Koplik spots disappear when the exanthem erupts.

More than compensating for the comparatively minor deficiencies mentioned are excellent discussions of a large number of infectious diseases. The method of presentation is very satisfactory. The illustrations vary from fair to excellent.

Because of the size and expense of the volume it will probably not be as favored by students as many of the briefer texts, but it fills quite adequately the need for a reference text for anyone having more than passing interest in the problems of communicable disease. The reviewer recommends it highly to general practitioners, internists, pediatricians and public health officers as the most complete modern text available on the subject.

HANDBOOK OF MEDICAL PROTOZOOLOGY — For Medical Men, Parasitologists and Zoologists. By Cecil A. Hoare, D.Sc. (Lond.), Protozoologist to the Wellcome Laboratories of Tropical Medicine, London. The Williams and Wilkins Company, Baltimore, 1950. $7.00.

This typically English textbook is designed to cover the field of protozoology only, and with reference to Great Britain only and presumably especially for the (medical) undergraduate and general practitioner for whom such provision is practically non-existent. The subject matter of this book covers an excellent introduction, 61 out of 321 pages. Here are nicely discussed the general features, classification and ecology of the protozoa. From the clinical viewpoint the subject matter is limited to protozoa, therefore actually to "amoebas," Leishmania, trypanosomes and the very minor groups of flagellates, Coccidia and ciliates, most of which are non-pathogenic (like most of the amebas also).

This volume is a valuable aid for medical persons who need such a protozoology as limited above. For American physicians and medical students its usefulness would be considerably less than the more complete parasitologies by Craig and Faust, Chandler, Sawitz and Belden.

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POSTGRADUATE GASTROENTEROLOGY. As presented in a course given under the sponsorship of the American College of Physicians in Philadelphia, December 1948. Edited by Henry L. Bockus, M.D., Professor of Gastroenterology, University of Pennsylvania Graduate School of Medicine. W. B. Saunders Company, 1950. $10.00.

As stated in its preface, this book represents in printed form the subject matter covered in a postgraduate course of gastroenterology given during a single week in December 1948 under the auspices of the American College of Physicians.

The subject matter covered in this postgraduate course of gastroenterology was presented mostly in the form of symposia and panel discussions and the proceedings are so transcribed in this volume.

Many well known physicians, authorities in the field of gastroenterology or closely allied fields, took part in the course and they came principally from the University of Pennsylvania Graduate School of Medicine, from Jefferson Medical College and Temple University Medical School, and in addition other well known gastroenterologists from New York, as well as surgeons, radiologists and professors of the physiological sciences. In all there were 53 physicians and scientists who took part in this postgraduate course of gastroenterology.

It was enjoyable to find a discussion of the common, everyday disturbance of pyrosis and a chapter dealing with gastric secretion in health and disease, describing the modifying effects of parasympathomimetic drugs, mucin, and also the value of the various methods of gastric analysis.

The subject of gastric neoplasm is interestingly discussed as to diagnosis from roentgenologic and cytologic aspects, its surgical treatment, and prognosis. One gains the impression that the five-year survival rate is higher in the surveys mentioned than in certain other reports of a large series of cases.

The subject of peptic ulcer is discussed as to diagnosis, medical and surgical treatment and with a very live panel discussion of the values of vagotomy. Dr. Bockus' own view was not one of enthusiasm at that time and he felt that much more experience with an extended follow-up over a period of years was necessary before the true value of this surgical measure of therapy could be ascertained.

Other chapters deal with psychosomatic, psychiatric and functional disturbance of the gastrointestinal system, food allergy, a very thorough discussion of pancreatic physiology, the function of potassium in the body, the treatment of intestinal obstruction, the differential diagnosis of jaundice and the physiology of biliary dyssynergia. Still another chapter on chronic ulcerative colitis discusses this disease in respect to the studies on lysozyme activity, nitrogen metabolism, and its surgical treatment, while the last chapter deals with carcinoma of the colon.

Reading this text is very refreshing because of the method of presentation of the various subjects, followed by panel discussion with questions and answers. One can almost feel that he too is in attendance at this postgraduate course in gastroenterology. Dr. Bockus is to be congratulated for the organization of such a thorough course by prominent physicians and surgeons, and for his efforts to bring together all the subject matter presented, then to edit it and have it published. It is a valuable service to all who are interested in gastroenterology and who cannot attend such courses of postgraduate study. It is hoped that the American College of Physicians will have the subject matter of other of its postgraduate courses presented in book form for which this volume sets an admirable example.

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TEXTBOOK OF BACTERIOLOGY. By Joseph M. Dougherty, A.M., M.A., Ph.D., Dean of the School of Science and Professor of Bacteriology, Villanova College; and Anthony J. Lamberti, B.S., M.S., Instructor in Bacteriology and Parasitology, Temple University. Second Edition. 141 Illustrations. The C. V. Mosby Company, St. Louis, 1950. $5.75.

Textbooks of bacteriology have flowed across this reviewer's desk in a steady stream for the last several years. He constantly wonders what stimulus there is to the continued production of books in a field which is already surfeited with many excellent texts. This one has been designed, according to the authors, for use in the teaching of bacteriology to premedical, predental, and pretechnicological students. If it is accepted that it is desirable to burden the already crowded curriculum in these years with a course in bacteriology, then this text might well be suitable for the purpose for which it is intended. It is simply written, discussions of the various topics are reasonably brief, and presumably it could be read with profit by students with a minimum of previous scientific training. The authors struggle with the usual difficulties arising in this sort of work when the descriptions of the microorganisms themselves are left behind and discussion of the host-parasite relationship and disease states is attempted. This is particularly apparent here when treatment is under discussion. A preliminary chapter, which seems excessively long, is devoted to the chemistry and description of the various antimicrobial agents. In spite of this fact, the sections on the use of these substances in various disease states are strangely old-fashioned, and sound as if they had not been rewritten for this edition.

A few specific criticisms also may be made of the book. A bibliography is appended as footnotes throughout the work, and many of the references are to original articles published many years ago. The inclusion of these for historical purposes is of interest, but if beginning students are to be interested in the consultation of original sources a substantial number of those listed must be current summaries of knowledge in readily available journals published in English. Two chapters could well have been omitted. One of these is a morphological description of the blood which does not belong in a textbook of bacteriology; the other is a 24-page discussion of the precise techniques for the performance of the complement-fixation test, which need not be considered in this detail in a beginning course which should be devoted largely to principles.

In summary, this is not a very interesting nor stimulating text, and it contributes no new thoughts, pedagogic or scientific. It will probably be satisfactory for beginning students but is not highly recommended.

GERIATRIC NURSING. By Kathleen Newton, R.N., M.A., in charge of Graduate Nurse Education, Cornell University-New York Hospital School of Nursing. Illustrated. The C. V. Mosby Company, 1950. $4.50.

This is a text for nurses who are concerned primarily with the care of older people. It is planned for those who nurse the aged, either in the home or the hospital, in the private or the public agency. It gives full recognition to the importance of the sociological, psychological and economic background of the geriatric patient. It stresses such factors as adequate housing, general hygiene and nutrition (the first two sections—126 pages—are given over to these considerations). The major section—273 pages—deals with the common clinical conditions which need emphasis in the minds of nurses caring for the aged.

The book is written in a simple, clear manner which makes it of interest to the doctor and layman as well as to nurses concerned with their part—often major—in the basic problem of how to make old age more satisfying.

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WILLIAMS OBSTETRICS. By Nicholson J. Eastman, Professor of Obstetrics, Johns Hopkins University, Obstetrician-in-Chief, Johns Hopkins Hospital. Tenth Edition. Appleton-Century-Crofts, Inc., New York, 1950. $12.50.

For nearly 50 years this book has been a standard reference for teachers and students of obstetrics. It is so well known to all who have an interest in this subject that there is little of importance a reviewer can say. But it should be pointed out that this new tenth edition is by all odds the finest and most extensive revision of all, more than half the text having been completely rewritten. The title "Williams Obstetrics" has been restored, and fittingly so, since once again the book represents to a large extent obstetric practice in the Johns Hopkins Hospital, where Williams reigned for so long a time.

The volume begins with an entirely new orientation chapter concerned with what might be called the public health aspects of obstetrics—birth rates, maternal mortality, stillbirths and neonatal mortality—as well as some remarks about problems for the future. The material on toxemia of pregnancy has been thoroughly revamped, and such things as vomiting, acute yellow atrophy of the liver, and renal disease have rightly been set apart. One might wish that the revision had been even more extensive, with a view to eliminating the somewhat artificial separation of eclampsia and preeclampsia. Thirty-three pages fall under the heading "eclampsia," which accounts for only 1 per cent of all the toxemia cases seen at the Hopkins Hospital, while less than 14 pages are devoted to preeclampsia which accounts for 78 per cent of the toxemias. Unification and condensation of these portions of the text would be of great help to the undergraduate student and general practitioner.

A valiant attempt has been made to bring the text up to date on pelvimetry, uterine activity during labor, obstetric anesthesia, placenta previa, syphilis and diabetes in pregnancy, puerperal infection, hemolytic disease of the newborn, and on numerous other questions of lesser magnitude. A good deal of the old text has been deleted, particularly items now of only historical interest, and the bibliographic lists have been shortened. This edition is a hundred pages shorter than the previous one. It is likely, however, that an even greater cut could be made in the length of the book without impairing its value.

The section on hemolytic disease of the newborn was written by Dr. Milton S. Sacks, director of the Baltimore Rh typing laboratory, and is very well done. The genetic aspects of the situation are clearly stated and the remarks on clinical management of the Rh-negative obstetric patient seem especially well phrased.

Chapter numbers, deleted in the previous edition, have been restored. This is of considerable aid when one uses the book as a classroom text. In future editions it might be profitable to introduce some sort of numbering or lettering scheme to designate various subdivisions of the longer chapters. About 200 new illustrations have been included, quite a few in color, and many old figures have been removed so that the illustrations are actually fewer in number but superior in quality. Altogether this is a delightful volume which should be read and reread by all who delve into the obstetric art.

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MEDICAL DIAGNOSIS — Applied Physical Diagnosis. Edited by Roscoe L. Pullen, M.D., F.A.C.P., Professor of Graduate Medicine, Director of the Division of Graduate Medicine, and Vice-Dean of the School of Medicine, Tulane University of Louisiana. Second Edition. W. B. Saunders Company, Philadelphia, 1950. $12.50.

In editing this volume, Dr. Pullen has elaborated an idea, favored by many teachers, that physical diagnosis should be expanded to incorporate and correlate all the methods which the clinician can summon to his command in examining the patient. These include various accessory procedures in the form of roentgenographic, fluoroscopic, histologic and other studies found helpful in the interpretation of phenomena at the bedside. To describe and amplify these procedures is the commendable purpose of "Medical Diagnosis." In putting it together, Dr. Pullen has produced a book much more bulky than the usual text on physical diagnosis and one which is at times unwieldy.

The book begins with chapters on the medical history and an introduction to the examination. It then proceeds through what might be termed a systematic discussion of the various parts of the body by "regions"; these include the skin, the blood and endocrine system as separate chapters. Finally there are general sections on the child, the aged and the psychiatric patient. The chapters which are new to this, the second edition, are those on the blood, on medical diagnosis in the aged and on the physical examination of the psychiatric patient. The sections on the eye, the abdomen and electrocardiographic interpretation have been completely rewritten.

There is, unfortunately, considerable variation in emphasis and volubility in the writing of the different chapters. For example, the excellent monograph by the late Hugh Auchincloss on an area as limited as the breasts is allotted 45 pages, whereas the entire section on the chest (by Julius Wilson) consumes only 63 pages. Seventy-five pages are given over to Sodeman's chapter on the heart and 75 pages to Bayley's chapter on electrocardiographic diagnosis. Roentgenography of the lungs and heart is given adequate but only moderate treatment in the respective chapters on these subjects, whereas one half of the section on electrocardiography is occupied with discussions of theory and of the normal electrocardiogram. The chapter on gynecologic and obstetric diagnosis by Carter is a model of completeness, but detailed quite out of proportion to the extent of its importance in such a book as this, and written with too much emphasis on definitions and too little on physical diagnosis. The informative chapter on the endocrine survey of sexual and reproductive systems by Hamblen includes considerable gobbledegook to detail the findings of the normal.

All in all this volume can be recommended to practitioners as a good to excellent (depending on the chapter) reference book on the various aspects of medical diagnosis. It gives due attention to several areas of the body usually somewhat neglected in texts on physical diagnosis, e.g., the skin, the mouth, the neck, the pelvis, the anus and rectum and the endocrine glands. It will not serve well as a textbook for the second year medical student, although he may find it useful as an ancillary reference.

THE RESULTS OF RADIUM AND X-RAY THERAPY IN MALIGNANT DISEASE. Being the Third Statistical Report from the Radium Institute, The Christie Hospital and Holt Radium Institute, Manchester, Years 1940-1944, inclusive, assessed at five years, and 1934 to 1938 assessed at 10 years. Compiled by Ralston Paterson, Margaret Tod and Marion Russell. E. & S. Livingstone, Ltd., Edinburgh (through Williams and Wilkins, U.S.A.), 1950. $2.50.

This small volume constitutes one of the finest summaries in the English language of the current results of competently administered irradiation. The volume is divided into three parts. Part I consists of a general report on the results of radiotherapy of new cases of malignant disease seen at the Holt Radium Institute between 1940 and 1944.

Part II deals with comparative analyses of results obtained with various radiotherapeutic techniques. Many of these are of great interest to the practicing radiologist, contrasting as they do radium with x-ray techniques, and "short" course with "long" course x-ray technique.

Part III is a ten-year report on the results of treatment during the years 1934 to 1938, and is an excellent illustration of the permanency of radiological cure in certain sites (notably in cancer of the uterine cervix, the lip, the larynx and the skin). On the other hand, in cancer of the breast and the urinary bladder, irrespective of method of treatment (surgical or radiological) late recurrences and metastases tend to adulterate the five-year figures.

Paterson's statistics on many sites are of great interest. For example, in cancer of the fundus uteri, his data show five-year cures by radium therapy alone similar to those obtainable with operation alone. He believes that in favorable or "operable" cases, irradiation offers as much as operation. His statistics bear him out.

The introduction to the book is of great interest, outlining as it does the problems of maintaining efficient cancer therapeutic services in wartime. "Casual bombing disturbed sleep and provided bomb stories; the Manchester blitz of Christmas 1940 filled the wards with casualties for a few days; and there are memories of an icy January afternoon when all doors and windows stood open while the Royal Navy disposed of the land mine which floated down gently to rest in the neighboring churchyard . . . but patients still demanded attention." A model of understatement from the hard-working Scot who is the senior author of this report and the director of the Radiation Therapy Center at Manchester.

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BUCHANAN'S MANUAL OF ANATOMY, 8th Edition. Edited by F. Wood Jones, D.Sc. (Lond.), M.Sc. (Manch.), M.B., M.S., F.R.S., F.R.C.S. Eng., F.R.A.C.S., Sir William Collins Professor of Human and Comparative Anatomy at the Royal College of Surgeons of England. The Williams and Wilkins Company, Baltimore, 1950. $8.50.

For almost half a century Buchanan's "Manual of Anatomy" has occupied a unique place in the English anatomical literature as the only textbook of larger size written and arranged from a purely topographical or regional standpoint as opposed to the traditional systematic arrangement. In consequence, Buchanan's manual is admirably suitable as a dissection guide as well as serving as a standard work of reference. Furthermore, the regional approach is that which is most useful to the practicing surgeon seeking anatomical information. In fact, were the student of medicine restricted to a single textbook of anatomy, this work would come to mind as the first choice in one's recommendation.

This, the eighth edition, is the second issued under the general editorship of Professor F. Wood Jones. As in its immediate predecessor, the sections on systematic embryology and histology, which had become unduly elaborate, have been omitted, doubtless due to the recognition that such aspects are better treated in textbooks specifically devoted to these subjects. In place of these omissions a chapter on the general growth and development of the body has been substituted among the preliminary materials. At the same time enough embryological information has been retained where necessary to explain and achieve the descriptive text. Such revisions and alterations as have been made from the seventh edition are relatively minor so that there is no change in the format of the work, and page by page, the correspondence between the two editions is exceedingly close.

The physician, surgeon and medical student will find Buchanan's textbook a most reliable guide to standard information on the structure of the human body. In addition, he will find here and there certain details of information not readily obtained elsewhere. The arrangement of the work should make it especially attractive to the surgeon. It is a pleasure to welcome, in revised form, an old friend.

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SANTA CLAUS, M.D. By W. W. Bauer, M.D. The Bobbs-Merrill Company, Inc., 730 North Meridian Street, Indianapolis 7, Ind. 1950. $2.75.

Dr. Bauer's most recent book presents the facts on medical care as it exists today in the United States, and compares it with medical care as furnished under socialized medicine (or, as he says, "sickness tax" medicine).

He avoids the pitfall of pages of complicated graphs and charts which make so many books and pamphlets on voluntary versus compulsory health insurance dull, unreadable and often unintelligible, especially to the layman. The A.M.A.'s 12-point program is not presented in the didactic 1-2-3 fashion which might deter the reader, but is given after clear background information; indeed, the discussion is so ably presented that when the points in the program are reached, they appear as logical conclusions. Details regarding the health plans in the individual states are summarized in an appendix, in usual pamphlet style.

The book is written from the viewpoint of a practicing physician, who is, after all, in one of the best positions to know the state of the nation's health and what should be done to improve it. Governmental control and good medical care are not compatible, and Dr. Bauer delineates the outlook for the patient's health and pocketbook under the political and the free systems. With realization of the costs and incompetent ramifications of compulsory health insurance, especially in view of the present state of the national budget and debt, the reader readily sees that "Santa Claus, M.D." is an expensive planner's dream.

Dr. Bauer has written a readable and interesting book on this controversial subject, and physicians would do well to recommend it to their patients and to the public at large.

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COAGULATION, THROMBOSIS, AND DICUMAROL, With an Appendix on Related Laboratory Procedures. By Shepard Shapiro, M.D., Assisting Professor of Clinical Medicine, New York University College of Medicine, and Murray Weiner, B.S., M.S., M.D., Fellow in Medicine, New York University College of Medicine. Brooklyn Medical Press, P.O. Box 99, Station H, New York 25, N. Y. 1949. $5.50.

The authors have compiled in book form the salient features of the blood coagulation mechanism, the phenomenon of thrombosis and the mechanism of action of dicumarol in the treatment of thromboembolic disorders. The text is well written, direct and full of important clinical information, and the authors have striven to discuss principles and mechanism rather than the applications of a therapeutic agent, although they give detailed information concerning the therapeutic uses of dicumarol. A valuable appendix contains an outline of the necessary hematologic tests and techniques. The whole is surmounted by a limited and selected bibliography. The book is recommended to anyone interested in the problems of the coagulation of the blood and the medical or surgical treatment of pathologic coagulation *in vivo*.